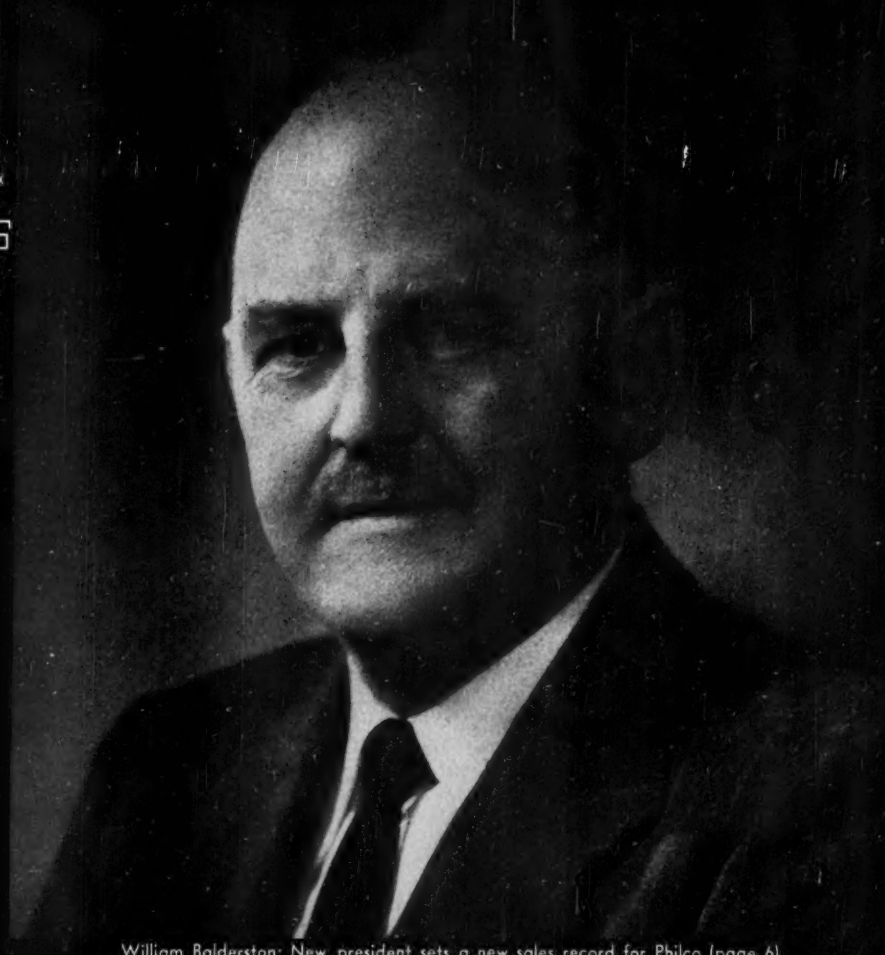


# BUSINESS WEEK

APR. 9, 1949



William Bolderston: New president sets a new sales record for Philco (page 6)

BUSINESS  
WEEK  
INDEX

A MCGRAW HILL PUBLICATION

TWENTY-FIVE CENTS



## We can't legislate happiness

**WE RUN THE RISK** in this country of substituting law for conscience; of feeling that passing a law makes something so. Laws are easy, work is hard. But only work, *hard* work, ever got anybody anything worth having.

—You can't legislate equality; people have to deserve it and earn it. Then, if they do earn it, the law can protect them in it. But the first obligation is theirs; equality must first be earned.

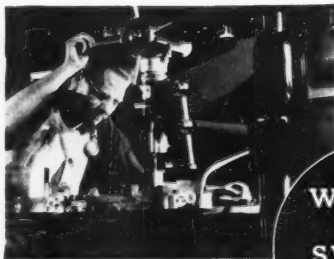
—You can't legislate full employment. If business is restricted and hampered, it will be able to hire fewer and fewer people. Soon there simply *will not be* enough tax money coming in to maintain the rest of the nation on WPA or anything else. It is very much to *everyone's* benefit to keep private industry so prosperous it will need to employ the maximum number of people.

—You can't have high wages just by passing a law—wages have to be earned by production

great enough to pay them, or else there soon will be *no* wages. A bankrupt corporation pays no wages, a closed factory provides no jobs.

—You can't "share the wealth," because wealth is production. Therefore, to increase prosperity you have to increase production so there will be more to share—and that can come only by hard work, not by laws.

Actually, you see, government can't do anything for you—you have to do it for yourself. That's the way any self-respecting American would want it, anyway. Government can't do anything basic for you because government *has* nothing except what the working taxpayer gives it, and government *is* nothing except the will of the people. Government can't do anything for you that you can't do for yourself because government *is* yourself.



**WARNER  
&  
SWASEY**  
Machine Tools  
Cleveland

YOU CAN MACHINE IT BETTER, FASTER, FOR LESS WITH WARNER & SWASEY TURRET LATHES, AUTOMATICS AND TAPPING MACHINES



## Hose blows out fire

### *A typical example of B. F. Goodrich product improvement*

SOME of the pipes in an oil refinery are called "hot lines" because they carry explosive liquids or gases at 500 to 1000 degrees—much hotter than an ordinary oven. If there's a leak, the gas often bursts into flame. In some refineries there are six or eight fires a day. Ordinary fire-fighting equipment would put out the fires but they immediately started again. Engineers found that steam would first "blow out" the flames and then keep them out until the leaks could be repaired.

But the steam was under such pressure that hose often burst just when

it was needed most. B. F. Goodrich engineers had already designed a long-lived steam hose, but they set out to make it better.

Former steam hose failed because its cotton fabric charred with heat, its rubber lining became brittle. B. F. Goodrich engineers substituted woven asbestos for the cotton, developed a new heat-resisting rubber lining that stays flexible and strong many times as long as old compounds. Then for good measure the engineers added stout wire braids. The result: the first truly *Burstproof* hose ever built.

Tests of this new B. F. Goodrich hose showed that even under constant heat and pressure it lasts two or more times as long as other types, and that steam or steam pressure positively will not rupture the hose wall. Refineries will be safer from fire, all users of steam hose will benefit, because B. F. Goodrich research continues to improve even those products which most people say are already good enough. *The B. F. Goodrich Company, Industrial and General Products Division, Akron, O.*

**B.F. Goodrich**  
BURSTPROOF STEAM HOSE



## Grip means everything under the top

That's true under the "big top"—and just as true under the glass-smooth top of a modern kitchen range. The big difference is that the circus act stakes everything on twenty fingers that can slip, while millions of can't-slip metal fingers safeguard the life of range, washing machine tub or refrigerator finish.

These millions of microscopic fingers are developed in the process of fusing porcelain enamel to ARMCO Enameling Iron under tremendous heat. They hold the hard, glossy finish in a lifetime bond.

Perfecting this special metal base for fine porcelain enameling was another achievement of ARMCO Research. This iron has long been the most

widely used sheet metal for hundreds of porcelain enameled products. Enamelers prefer ARMCO Enameling Iron, not only because it cuts rejects and gives them more uniformly excellent products, but because it is so well known to the public and creates ready sales acceptance.

Enameling iron is only one of the many extra-quality grades developed by Armco to help manufacturers make increasingly better and more salable products. When buyers see the famous ARMCO triangle on equipment or products, they know the steel has been carefully chosen to give them longer service and greater value. Armco Steel Corporation, Middletown, Ohio. Export: The Armco International Corporation.

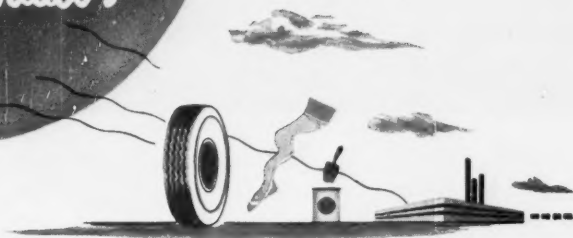
## ARMCO STEEL CORPORATION

THE FAMILIAR ARMCO TRIANGLE IDENTIFIES SPECIAL-PURPOSE STEELS THAT HELP MANUFACTURERS MAKE MORE ATTRACTIVE, MORE USEFUL, LONGER-LASTING PRODUCTS





Are you  
interested in  
making a  
better product?



**DOWTHERM...** *the heat transfer medium for high temperatures ...*  
improves quality through controlled  
process heating

In many widely varied fields—foods, fabrics, plastics, rubber, paints and varnishes, to name only a few—DOWTHERM provides the uniform, precisely controlled temperatures that mean improved product quality and reduced operating costs.

The use of DOWTHERM heating in the varnish industry, for example, results in clearer varnishes. In the food industry, DOWTHERM makes it possible to process shortening economically, without discoloring the product. And in the soap industry, DOWTHERM assists in the production of specialized soaps.

DOWTHERM speeds the heating cycle and at the same time reduces labor costs. Its outstanding characteristic is the accurate control it affords in attaining temperatures between 300 and 700°F. at low pressures.

What about your industry? Are your process men fully acquainted with DOWTHERM's higher operating efficiency? We welcome the opportunity to discuss any process heat problems you may be confronted with. Phone or write Dept. DM2.

THE DOW CHEMICAL COMPANY  
MIDLAND, MICHIGAN



**DOWTHERM**





**Is** YOUR FIRM getting its first taste of battery-powered handling by using one or more motorized hand trucks? Chances are that you're trying out your equipment on all sorts of jobs . . . and realizing in how many ways battery-industrial trucks can speed handling and increase production.

If so, now is the time to become acquainted with long-life EDISON Nickel-Iron-Alkaline Storage Batteries . . . the batteries that give you real dollar economy. Did you know they're electrically foolproof—require no critical adjustment of charge rates—can't be injured by reverse charging, short circuiting or similar electrical accidents? Did you know they're built of rugged steel inside and out to withstand rough usage? Did you know EDISON Service Engineers check your batteries regularly and help you to maintain them in top condition?

EDISON Batteries last and last, and so through the years their superiority costs you less and less. Prove this to yourself by asking the EDISON users in your own vicinity, then profit by their experience.

**ADVANTAGES OF EDISON NICKEL-IRON-ALKALINE BATTERIES:**  
They're mechanically durable; electrically foolproof; quickly and easily charged; simple to maintain; not injured by standing idle.



**EDISON**  
Nickel • Iron • Alkaline  
STORAGE BATTERIES



**EDISON STORAGE BATTERY DIVISION**  
of Thomas A. Edison, Incorporated, West Orange, N. J.  
In Canada: International Equipment Co., Ltd., Montreal and Toronto

## BUSINESS WEEK

**EDITOR**  
Ralph Smith

**EXECUTIVE EDITOR**  
Kenneth Kramer

**MANAGING EDITOR**  
Edgar A. Grunwald

**ASST. MANAGING EDITOR**  
Harry Lee Waddell

**ASSOCIATE MANAGING EDITOR**  
Robert B. Colburn

*New Editors:* Cora Carter, Frank J. Fogarty, Richard M. Machol, Carl Rieser, Guy Shipley, Jr. • *Illustration:* Jacquelyn Judge, C. Peter Davis

### DEPARTMENT EDITORS

*Business Outlook:* Clark R. Pace • *Business Policy:* John L. Cobbs • *Finance:* William McKee Gillingham • *Foreign:* Howard Hadden • *Labor:* Merlyn S. Pitzele • *Law:* Joseph A. Gerardi • *Marketing:* James C. Nelson, Jr. • *Production:* John Sasso • *Agriculture:* Arthur L. Moore

### EDITORIAL ASSISTANTS

J. P. Chamberlain (Asst. Finance Editor), Jane E. Clark, Jean Drummond, Mary Flaherty, Charles M. Garvey, John Harshorne, John Hoffman, Robert B. McIntyre (Asst. Marketing Editor), Nathaniel McKitterick, Arthur Richter, Edward T. Townsend (Asst. Labor Editor), Doris I. White • *Statistics:* Gertrude Charlott • *Librarian:* Mildred L. Washburn

### ECONOMICS STAFF

Dexter M. Keener, Sanford S. Parker, William F. Butler, Peter French, Robert F. Ulin

### DOMESTIC NEWS SERVICE

*Chicago Bureau:* James M. Sutherland, Mary B. Stephenson, Dorothy Miller • *Cleveland Bureau:* Robert E. Cochran • *Detroit Bureau:* Stanley H. Brans, S. H. Brown • *San Francisco Bureau:* Richard Lamb, Mardell Burns • *Washington Bureau:* George Doyne, Glen Bayless, Thomas A. Falco, Carter Field, Joseph Gambatese, Seabrook Hull, Louise Jacobson, Sam Justice, Paul Leach, Jr., Donald O. Loomis, Gladys Montgomery, Seymour Nagao, Caroline Robertson, Vincent Smith, William B. Whitchard, Jr. • *Correspondents:* Akron, Albuquerque, Atlanta, Baltimore, Bangor, Birmingham, Boston, Buffalo, Charlotte, Cincinnati, Columbus, Dallas, Denver, Des Moines, Evansville, Houston, Indianapolis, Kansas City, Knoxville, Los Angeles, Louisville, Madison, Memphis, Miami, Minneapolis, New Orleans, Oklahoma City, Omaha, Philadelphia, Pittsburgh, Portland (Ore.), Providence, Richmond, Rochester, Salt Lake City, San Diego, Seattle, St. Louis, Spokane, Topeka, Tucson, Wichita, Wilmington, Fairbanks (Alaska), San Juan, Honolulu

### FOREIGN NEWS SERVICE

*Editor:* Russell F. Anderson • *London:* Frederick Brewster • *Paris:* Boyd France • *Frankfurt:* John Christine • *Moscow:* Andrew Steiger • *Tokyo:* Alpheus Jessup • *Bombay:* Joseph Van Denburg • *Melbourne:* Herbert Leopold • *Rio de Janeiro:* Henry Bagley • *Buenos Aires:* John Wilhelm • *Correspondents:* Amsterdam, Bangkok, Batavia, Bogota, Cairo, Caracas, Copenhagen, Geneva, Johannesburg, La Paz, Lima, Manila, Mexico City, Milan, Montevideo, Ottawa, Prague, Santiago, Shanghai

**PUBLISHER**  
Paul Montgomery

**ADVERTISING MANAGER**  
H. C. Sturm

BUSINESS WEEK • APRIL 9 • NUMBER 1023

(with which are combined The Annalist and the Magazine of Business) • Published weekly by McGraw-Hill Publishing Company, Inc., James H. McGraw (1860-1948), Founder • Publication Office 99-129 North Broadway, Albany, N. Y. • Postmaster: If undeliverable, notify publisher on Form 3578-P • Editorial and Executive Offices, 330 W. 42nd St., New York 18 • James H. McGraw, Jr., President; Curtis W. McGraw, Vice-President and Treasurer; Eugene Duffield, Executive Assistant for Publications; Nelson Bond, Director of Advertising; Joseph A. Goralick, Secretary.

Address correspondence regarding subscriptions to J. E. Blackburn, Jr., Director of Circulation, Business Week, 99-129 N. Broadway, Albany 1, N. Y., or 330 West 42nd St., New York 18. Allow ten days for change of address.

Subscriptions to Business Week are solicited only from management-men in business and industry. Position and company connection must be indicated on subscription orders. Single copies 25c. Subscription rates—United States and possessions \$6.00 a year, Canada \$7.00 a year, Pan American countries \$10 a year. All other countries \$20 a year. Entered as second class matter Dec. 4, 1936, at the Post Office at Albany, N. Y., under Act of Mar. 3, 1879. • Printed in U. S. A. Copyright © 1949 by McGraw-Hill Publishing Co., Inc. • All Rights Reserved.

BUSINESS WEEK • Apr. 9, 1949

# ARCHIE, THE CRIMINAL OCTOPUS!

(A SORT OF A PARABLE, KIND OF)

by Mr. Friendly



With one hand Archie forged a check,  
Another robbed the till,  
Another grabbed the Boss's neck,  
Another stole a bill.

The poor Boss cried, "Oh goodness me!"  
And questioned Archie's honesty!

Then Mr. Friendly happened by and said,  
"Perhaps you ought to try American Mutual's  
Comprehensive Crime Policy which

gives you complete protection against dishonest  
employees and octopi, robbery, burglary, theft  
and forgery... at a savings that's never  
been less than 20% on crime insurance."

The Boss signed up and now he's free  
From worries over larceny.  
Even a criminal octopus  
Won't make him fret... or make him fuss!

## AMERICAN MUTUAL

... the first American liability insurance company

© 1949, AMERICAN MUTUAL LIABILITY INSURANCE COMPANY



\$700,000,000 in crime losses! That was the estimate for '47... and today it's on the increase. Why not protect yourself against all crime losses with American Mutual's Special Comprehensive Crime Policy.\* Write for your free copy of "Modernizing Your Crime Loss Insurance Protection." American Mutual Liability Insurance Co., Dept. B-59, 142 Berkeley St., Boston 16, Mass. Branch offices in principal cities. Consult classified telephone directory.

\*In New York, Louisiana and Texas coverage is limited to the standard Comprehensive Dishonesty, Disappearance and Destruction Policy.



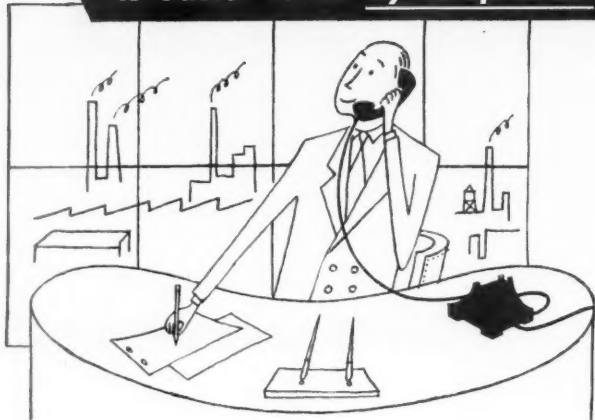
## Pursuing a prospect in Peru...

You'll find it's easy and economical, too, to make and keep business connections abroad by telephone. Voice-to-voice visits with foreign prospects and customers help create mutual understanding.

And telephoning is always a pleasant way to keep in touch with friends and relatives overseas. You'll enjoy hearing their voices. And they'll enjoy hearing yours.

You can call most countries around the globe today. Just say to your Long Distance operator, "I want to make an overseas call."

## is easier to do by telephone!



BELL SYSTEM OVERSEAS TELEPHONE SERVICE



## THE DEPARTMENTS

Business Abroad	113
Business Outlook	9
Cities	30
Finance	86
International Outlook	111
Labor	96
Marketing	39
The Markets	94
New Products	80
Production	68
Readers Report	64
The Trend	120
Washington Outlook	15

## THE COVER

William Balderston, the new president of Philco Corp., got into electronics by a round-about route. His one idea after graduating from high school in his native Boise, Idaho, back in 1913, was to earn enough money to get an engineering degree at the University of Wisconsin. So he went to work for two years with the U. S. Reclamation Service in Wyoming.

• **Delay**—The gangling, 6-ft., 2-in. Balderston finally made it, pulling into Madison, Wis., on a sheep train with \$900 in his pocket. A spell as lieutenant in the field artillery during World War I delayed his college career. But he managed to get back to Wisconsin to receive his diploma with the class of '19.

Balderston was headed for a career with the government irrigation service when he married Susan Bowen Ramsey, whose father operated the Ray-O-Vac Co. plant in Madison. Government work went by the boards: Balderston spent the next decade with Ray-O-Vac, rising to vice-president of the battery company.

• **Transitone**—Balderston got out of the battery business when plug-in sets finished off batteries as a power source for home radios. The next step took him to Long Island where he negotiated an interest in Transitone Co., a pioneer auto-radio company.

When Philco bought the company in 1930, Balderston got the assignment of organizing an auto-radio division.

• **War Work**—Balderston's salesmanship helped Philco get its wartime contracts. He undertook a tough deadline on airborne-radar equipment. Philco made good by delivering the first unit to Wright Field in a boxcar specially fitted out as a laboratory for last-minute adjustments. Balderston became vice-president in charge of war work in 1941, president of the company in 1948.

The Philco head lives in Meadowbrook, on the outskirts of Philadelphia, where he indulges his hobbies of gardening and photography.

—Complete story on Philco Corp. starts on page 48. Cover photography © Fabian Bachrach.

CS  
113  
9  
30  
86  
111  
96  
39  
94  
80  
68  
64  
120  
15

"So your

## INVENTORY COSTS

are too high...

...Here's how

**WE** got out

from under!...



**"THE PROBLEM OF EXCESS STOCKS** was giving us plenty of headaches. No wonder! In dollars, our inventories had swelled to 245% over our best pre-war year... yet our sales had increased scarcely half that much during the same time.



**"DRASTIC ACTION NEEDED!** But... when we cut back our buying commitments we soon found our stocks running dangerously low on many popular items. Puzzle: How to maintain *balanced* stocks... not too much, not too little of each item.



**"ONLY SOLUTION—A NEW SYSTEM.** 3 "Musts" were apparent (1) The system would have to simplify our inventory data (2) Warn us unflinching of threatened understocks or overstocks (3) Assure proper ratios among stock items.



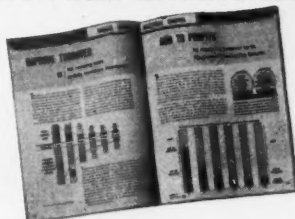
### **"WHY WE CHOSE KARDEX VISIBLE.**

After seeing all kinds of systems in use in companies similar to ours, we decided unanimously on Kardex Visible. It not only gives us our 3 "musts" but requires a lot less clerical effort. And the change-over was easy—Remington Rand installation experts handled the whole job."

Send for this Free Book Today:

## **"HOW TO GET PROFITS FROM INVENTORIES"**

Learn the newest, proved-in-use, simplified methods of controlling inventories... your own stores of raw materials, parts or supplies, as well as finished goods for resale. Phone our nearest office or write Systems Division, Room 1111, 315 Fourth Ave., New York 10, N. Y. for your free copy of Book No. KD 375.



**Remington Rand**

THE FIRST NAME IN BUSINESS SYSTEMS

Copyright 1949, by Remington Rand Inc.





## 40,000 Rubs

**I**N OUR Institute of Plumbing Research, there's a special machine designed to test the life of the enamel we use on bathtubs, sinks, and other enameled cast iron products.

The samples of enamel we test on this machine are subjected to conditions our products will have to meet in actual use. They are rinsed with hot water and cold water, coated with soaps and cleansers—and rubbed 40,000 times.

40,000 rubs! That's a lot of rubs on anybody's bathtub or sink. It's roughly equivalent to withstanding a good cleansing—every day—for more than 30 years!

This service test is just one of many tests our enamel undergoes. But it's typical of the extra care taken by American-Standard all along the line to make sure you get the best value for your money in heating equipment and plumbing fixtures. And such care helps to explain why American-Standard is "First in Heating . . . First in Plumbing."

American Radiator & Standard Sanitary Corp.  
General Offices: Pittsburgh, Pennsylvania

**AMERICAN-Standard**  
First in heating . . . first in plumbing



*Look for this Mark of Merit*

Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILER • ROSS HEATER • TONAWANDA IRON



# BUSINESS OUTLOOK

BUSINESS WEEK

APRIL 9, 1949



Business activity will hinge, in the next several months, on how well these major factors hold up:

Steel operations; auto sales; demand for nonferrous metals; construction activity; business spending (on both plant and inventories).

A couple—such as autos and building—might go up and cushion a decline in some of the others.

Steel and autos have been sustaining Business Week's Index for two months or more (BW-Apr. 2'49, p24).

But if all, or most, go down at the same time, look out!

•  
New figures on business spending (page 26) are reassuring.

Business is going ahead with its expansion plans. Totals won't be so big as a year ago, but they still are huge.

Manufacturing shows a considerable tapering off in expansion. But the dollar figures don't tell the whole story.

Less money is going into building, more into equipment. That is very important.

Buying equipment sustains all heavy industry. Past experience indicates that when heavy industry is busy, we all are busy.

•  
Inventory policy in 1949 will be very different from 1947 and 1948.

Industry struggled for a long time to bring raw materials supplies up to manufacturing needs.

Inventories expanded steadily, and often rapidly, from early 1946 right through this February.

But supply overtook demand last winter, in the aggregate. Then sales slacked off a little for a few hard-goods manufacturers. Their inventories, instead of being just right, became too large.

They stopped buying. Prices began to slide. Then other industries held off buying, looking for still lower prices. And prices slid further.

As industry began to use up the stuff it had on hand, inventory accumulation was transformed into inventory contraction.

•  
Added up, business spending on new facilities and on inventories this year is likely to be substantially smaller than last. The effect will be to slow down the activities of industries serving these demands.

•  
Lower inventory levels already are having an effect on bank loans.

Here, both quantity and price enter in. A manufacturer or merchant finds that he needs fewer units of a certain thing to meet sales. He reduces the quantity in stock. At the same time, suppliers cut prices to stimulate demand. Cost goes down along with the amount on hand.

Generally speaking, this boosts working capital. Not only does the company not have to borrow more; it may also be able to pay off old loans.

•  
Changed business borrowing habits show up clearly in the loan figures.

A year ago, with prices rising and everyone boosting inventories, loans had a seasonal decline from December to March of only \$250-million.

This year, with the trend reversed, loans have dropped \$650-million.

•  
Car and truck output in the first 1949 quarter was at an annual rate of

# BUSINESS OUTLOOK (Continued)

**BUSINESS WEEK**  
**APRIL 9, 1949**

just over 5.6-million units a year. If sustained, that would break all past records.

Yet it doesn't mean the market is being flooded. There is no evidence that buyers wouldn't take 6-million or more units this year.

It is quite true that prices are being cut and that some models aren't moving as briskly as manufacturers might like (page 20). Nevertheless, the public has not yet been offered all the lower-priced cars it wants.

Demand for iron and steel may possibly be past the peak. There is no evidence of a sizable drop in demand any time soon, however.

The greatest change so far is that customers no longer are falling all over themselves trying to get steel.

There is, however, lower demand for pig iron. Because of this, one blast furnace—all relined and ready to go—was not relighted this week.

Steel customers are beginning to suggest rather pointedly to mill representatives that a general price cut is in order.

They have one big argument on their side. That is the drop in cost of steel-making scrap. The Iron Age composite is down another \$5 a ton; at \$26.17, it is nearly \$17 a ton below the January top.

The argument for lower prices would be stronger, however, if mills knew the answers to three or four questions:

How much will our wages go up? How much will John L. Lewis get, and what will that add onto coal costs? How much more will freight rates rise? What will happen to basing points and f.o.b. pricing in Congress?

Steel mills, instead of cutting prices, would like to go after old customers. The logical way would be to offer them concessions to offset part of the freight cost added by f.o.b. pricing.

You'll hear more of this unless Congress restores basing points.

Nonferrous metals may get worse before they get better—but it was hard, this week, to see how markets could get very much worse.

Lead now has been cut from 21½¢ a lb. to 16¢; another cut in zinc this week brought it down to 15¢ from the high of 17½¢.

Copper still is offered a shade under the base price of 23½¢ a lb.

But did any of these things stimulate demand? Quite the opposite.

Construction remains a question mark in figuring business prospects.

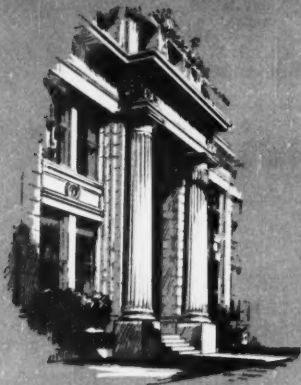
Value of work put in place last month was a shade above February and also March of last year. The total, at \$1.2-billion, is very high.

However, the important residential segment wasn't so impressive. Value of work put in place was \$400-million. That's the smallest (except for frosty February, 1948) in the last 21 months.

Industrial construction, too, was below the previous month and March a year ago. However, lower building costs may help turn this trend up.

Don't lose sight of one big construction factor:

Public works will go a long way to cushion drops elsewhere. Total public construction in March was 49% higher than a year ago. Schools and roads are big factors.

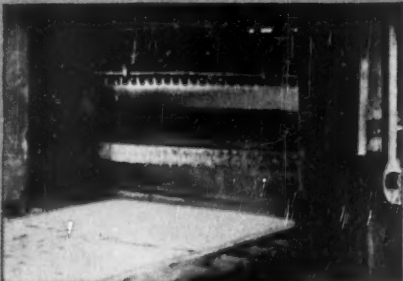


# Portal

## TO PRODUCTION

NO FACTORY GATE is this, yet it offers access to one of America's most effective producing aggregations in the all-important steel industry.

**BARIUM STEEL CORPORATION** home offices at 25 Broad Street in New York City are a clearing house of information on day-to-day schedules in all the subsidiary plants. With an inventory of what can be done, when and where, the executives of Barium Steel Corporation are prepared to answer quickly and accurately any inquiry for service.



A. Open hearth and electric furnace steel melting.

C. A steel barge ready for delivery to the customer.

B. Rolling steel plates.

D. Whirley crans and barge construction at Wilsey Manufacturing Company, Port Deposit, Maryland.

# Barium

SUBSIDIARIES

MELT • ROLL • CAST • MACHINE  
FORGE • STAMP and FABRICATE

## STEEL

BARIUM STEEL & FORGE, INC.

Canton, Ohio

BAYONNE BOLT CORP.

Bloomer, N. J.

CENTRAL IRON AND STEEL CO.

Harrisburg, Pa.

CITIZEN IRON WORKS, INC.

Durham, N.C.

THE CUYAHOGA SPRING CO.

Cleveland, Ohio

THE DETROIT STEEL CASTING CO.

Detroit, Mich.

ERIE BOLT & NUT COMPANY

Erie, Pa.

FARMINGTON, INC.

Detroit, Mich.

THE GEOMETRIC STAMPING CO.

Cleveland, Ohio

GLOBAL ROSS, INC.

Syracuse, N. Y.

KERAMET MANUFACTURING CO.

Stamford, Conn.

KERAMET CANADA LTD.

Toronto, Ontario, Canada

PERMA-LACK CORP.

Cleveland, Ohio

PORCELAIN STEEL CORP.

Cleveland, Ohio

SHEFFIELD IRON & STEEL CO.

Sheffield, Ala.

WILEY MANUFACTURING CO.

Hamlet, N.C.

WILEY MANUFACTURING COMPANY, Port Deposit, Md.

## BARIUM STEEL CORPORATION

TWENTY-FIVE BROAD STREET • NEW YORK CITY

Before choosing any printing paper . . .

# Look at Levelcoat\*



Illustrated here is a typical use of Levelcoat, not an actual booklet.

IT PAYS TO LOOK AT LEVELCOAT

*Levelcoat*<sup>\*</sup>  
PRINTING PAPERS



KIMBERLY-CLARK CORPORATION, NEENAH, WISCONSIN

## Look at Levelcoat... for brightness

You'll see the kind of surface that brings out color printing in brilliant, flashing beauty . . . makes lines of type sharp, clear, distinct. For the "brightness" quality is skillfully blended-in throughout every step in the manufacture of Levelcoat paper . . . concluding with Kimberly-Clark's special "lustre-coating" process.

## Look at Levelcoat... for smoothness

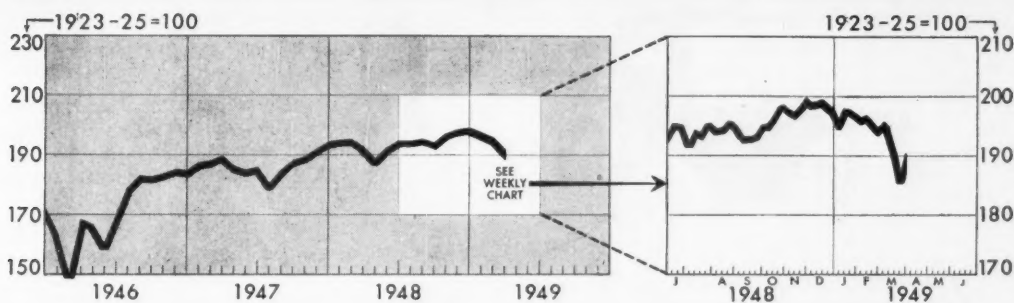
Compare its swan-smooth surface with the paper you are now using. Test Levelcoat on your delicate printing jobs. Discover how this smoother texture can improve the quality of your printing. And remember that Levelcoat is precision-coated with the finest of "face-powder" clays to give such perfect performance.

## Look at Levelcoat... for printability

Vitality important to performance on the press is the quality of pick-resistance . . . in which Levelcoat excels. Yet this is but one of many features which help prevent expensive stoppages. That's why Levelcoat is such a favorite — for trouble-free performance means lower cost to advertisers, better returns for printers.

Levelcoat printing papers are made in these grades: Trufect<sup>®</sup>, Multifect<sup>®</sup>, and Rotofect<sup>®</sup>.

# FIGURES OF THE WEEK



**Business Week Index** (above) . . . . . \*190.6 †186.9 195.6 184.8 162.2

## PRODUCTION

	5 Latest Week	Preceding Week	Month Ago	Year Ago	1941 Average
Steel ingot operations (% of capacity).....	98.8	99.8	101.4	83.2	97.3
Production of automobiles and trucks.....	117,759	†121,341	118,267	105,132	98,236
Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands)....	\$25,776	\$26,040	\$22,842	\$22,534	\$19,433
Electric power output (million kilowatt-hours).....	5,378	5,404	5,552	5,037	3,130
Crude oil (daily average, 1,000 bbls.).....	5,072	5,130	5,187	5,389	3,842
Bituminous coal (daily average, 1,000 tons).....	395	†493	1,812	362	1,685

## TRADE

Miscellaneous and L.C.L. carloadings (daily average, 1,000 cars).....	74	74	73	83	86
All other carloadings (daily average, 1,000 cars).....	26	27	43	27	52
Money in circulation (millions).....	\$27,403	\$27,423	\$27,557	\$27,780	\$9,613
Department store sales (change from same week of preceding year).....	-16%	-16%	-7%	+17%	+17%
Business failures (Dun & Bradstreet, number).....	216	166	185	91	228

## PRICES (Average for the week)

Cost of Living (U. S. Bureau of Labor Statistics, 1935-39 = 100), February.....	169.0		170.9	167.5	105.2
Spot commodity index (Moody's, Dec. 31, 1931 = 100).....	362.7	368.8	376.0	412.4	198.1
Industrial raw materials (U. S. Bureau of Labor Statistics, Aug., 1939=100)....	247.5	254.9	265.9	270.5	138.5
Domestic farm products (U. S. Bureau of Labor Statistics, Aug., 1939=100)....	290.1	291.3	298.3	366.7	146.6
Finished steel composite (Steel, ton).....	\$96.68	\$97.23	\$97.77	\$81.14	\$56.73
Scrap steel composite (Iron Age, ton).....	\$26.17	\$31.17	\$36.25	\$40.25	\$19.48
Copper (electrolytic, Connecticut Valley, lb.).....	22.950e	23.450e	23.500e	21.500e	12.022e
Wheat (Kansas City, bu.).....	\$2.25	\$2.23	\$2.27	\$2.44	\$0.99
Sugar (raw, delivered New York, lb.).....	5.59e	5.69e	5.74e	5.40e	3.38e
Cotton (middling, ten designated markets, lb.).....	32.73e	32.66e	32.70e	35.93e	13.94e
Wool tops (New York, lb.).....	\$1.47e	\$1.533	\$1.601	\$1.794	\$1.281
Rubber (ribbed smoked sheets, New York, lb.).....	18.80e	19.00e	18.93e	22.20e	22.16e

## FINANCE

90 stocks, price index (Standard & Poor's Corp.).....	118.9	119.3	117.5	120.5	78.0
Medium grade corporate bond yield (30 Baa issues, Moody's).....	3.46%	3.46%	3.47%	3.50%	4.33%
High grade corporate bond yield (30 Aaa issues, Moody's).....	2.70%	2.70%	2.71%	2.79%	2.77%
Call loans renewal rate, N. Y. Stock Exchange (daily average).....	14-14%	14-14%	14-14%	14%	1.00%
Prime commercial paper, 4-to-6 months, N. Y. City (prevailing rate).....	14-14%	14-14%	14-14%	14%	4-4%

## BANKING (Millions of dollars)

Demand deposits adjusted, reporting member banks.....	44,909	45,473	46,112	45,340	††27,777
Total loans and investments, reporting member banks.....	61,171	61,749	61,976	62,221	††32,309
Commercial and agricultural loans, reporting member banks.....	14,904	14,962	15,147	14,417	††6,963
Securities loans, reporting member banks.....	2,186	1,926	1,577	1,666	††1,038
U. S. gov't and gov't guaranteed obligations held, reporting member banks.....	31,750	32,680	33,069	34,433	††15,999
Other securities held, reporting member banks.....	4,387	4,373	4,290	4,335	††4,303
Excess reserves, all member banks.....	430	730	750	655	5,290
Total federal reserve credit outstanding.....	22,378	22,512	22,422	21,607	2,265

\*Preliminary, week ended April 2nd.

†Revised.

††Estimate (BW—Jul.12'47,p16)

‡Date for "Latest Week" on each series on request.





1. Happy Hal, the Hermit, figured he was sitting pretty, and then he won a contest and a trip to New York City. "What's this I see?" the hermit cried, arriving in his rattler. "The Hotel Pennsylvania has become the **HOTEL STATLER!**"



2. "On my last visit, years ago," the Happy Hermit cried, "it was a Statler-run hotel—they *own* it now, beside. Perhaps I will give up my cave, a hermit's life at best is lonely . . . and I know that here I really *am* a guest!"



3. He spent a night in Statler's room, and slept on Statler's bed. "Why that's the best night's sleep I've had in many years," he said. "For those eight hundred springs and more, I'll give a quiet cheer, and if I keep on hermit-ing . . . I'll be a hermit *here!*"



4. The hermit ate a Statler meal, and goodness, *how* he ate. "That food was so darn good," he said, "I've got to call it *great!* I think I'll give up hermit-ing, rejoin the ranks of men, so I can eat the Statler food again and yet again!"



5. Happy Hal, ex-hermit now, and leading businessman, like all who stay at Statler once, is quite a Statler fan. "I find I'm close to shows and shops, and close to business, too. I like the Statler in New York . . . I'm sure you'll like it, too!"



STATLER HOTELS **NEW YORK** (FORMERLY HOTEL PENNSYLVANIA)  
**BOSTON • BUFFALO • CLEVELAND**  
**DETROIT • ST. LOUIS • WASHINGTON**  
 STATLER OPERATED **HOTEL WILLIAM PENN • PITTSBURGH**



# WASHINGTON OUTLOOK



**HIGHER TAXES**—You still have to allow for them.

Since January, we have said repeatedly that Congress is going to hike taxes—on corporations. Our feeling was that there would be a new tax law—to raise another \$2-billion or \$2½-billion—by the time Congress quit in July.

Lately, you have been reading a rash of stories about cuts in Truman's budget, of warnings from men like Senate Tax Chairman George that a tax increase would demoralize business.

So, this week we took another look around. We added up the latest figures and we counted political pulses. After all, there's emotion as well as bookkeeping in taxes.

And we wind up with this: Higher taxes—yes, still. And still about \$2-billion more. But effective next January rather than this July.

There are many reasons for pushing back the date. Business is in a period of uncertainty, and Congress wants all the time it can get to see which way things are going. Anyway, Congress is way behind schedule.

**DEFICIT FINANCING** for fiscal 1950 is the alternative to higher taxes. Arithmetic demonstrates this.

Truman, in January, asked Congress to vote \$41.9-billion for fiscal '50. To date, Congress has snipped less than \$250-million off this figure.

The ballyhooed 15% slash in public-works construction funds comes to only about \$150-million. Then there's this week's cut of \$25-million from the \$725-million agriculture bill.

All told, Congress won't do better than knock \$1½-billion off Truman's \$41.9-billion requests. That assumes elimination of the \$600-million he asked for military training (which is certain) and an ultimate 10% cut in money for ECA (which isn't at all certain).

But these cuts will be offset—and more—by money for projects not in Truman's \$41.9-billion. Congress is set to give the Air Force around a half-billion more than Truman asked for.

And there's the cash for European arms. The best figure we get is at least \$750-million in fiscal '50.

So fiscal '50 spending will be at least \$42-billion.

**WHAT ABOUT REVENUE?** Truman figured in January that present taxes would bring in \$41-billion in fiscal '50.

Since then the business picture has changed. Tax experts now look at Truman's estimate—he's always been low in the past—as the maximum you can hope for. Fiscal '50 revenues could even be \$2-billion less.

Thus, on balance, you can already see that fiscal '50 is in the red—from \$1-billion to \$3-billion.

**WILL CONGRESS PERMIT DEFICIT FINANCING** to avoid higher taxes?

The answer today is still no. True, a balanced budget is no longer the sacred cow it has been. There is even talk that a little deficit spending might be helpful—it could give business a lift. But only a minority thinks so.

Taft and Harry Byrd reject this as the easy way out. They warn Congress: Cut government spending or increase taxes to pay the bills.

And they have already been voted down on a real budget-cutting test—the ECA bill.

**MANGANESE CONSERVATION** is being pushed by the government now that Russia is choking off a third of normal U. S. supplies (BW—Mar. 26'48,p21).

For the present at least, it's a joint industry-government project. Government men say the alternative is mandatory allocation, not only for manganese but for steel as well.

Their reasoning: Unless something is done, steel production will have to be cut back by the end of this year—for at least a year. With Russian manganese cut off, industry stockpiles won't last the year out at the present rate of use. And nobody is willing to tap the military stockpile for the short-range deficit.

Long-range—after two years or so—there isn't much to worry about. New production in Brazil and Africa will more than make up for the lost Russian supply.

But the only major source of immediate increase is from India; government expeditors have been there since last fall without much luck. Better transport will step up shipments some from Africa's Gold Coast—but not enough immediately.

Conservation angles being worked on already: (1) using less manganese as a "cleanser" in smelting; (2) reworking slag with high manganese content. The American Iron & Steel Institute has

# WASHINGTON OUTLOOK (Continued)

put up \$50,000 for some Bureau of Mines research on the latter job.

A third possibility: lower content manganese alloys.

**BRANNAN'S OWN FARM POLICY** is this: The government should see to it that the farmer's share of the national income be kept at the share he's enjoyed over the last 10 years.

Until Brannan testified at this week's joint hearing, the farm issue was in terms of parity between specific crop prices and prices for things the farmer buys.

Instead of all this, Brannan says: Let's talk about the farmer's gross cash income in relation to total national income.

And he spelled out his own formula for keeping the farmer's share the same it's been over the last decade. He calls it: income support standard.

Brannan's plan asks Congress to scrap last year's Aiken law—written in terms of parity prices rather than parity income. He wants to hurdle the whole postwar squabble between rigid 90% vs. sliding-scale 60%-to-90% parity support.

But even more, this is Brannan's bid to insure that the farmer keeps the favorable position in the national economy he finally attained during the war. His experts figure that the price parity formula is no longer a good guarantee.

You might note that family-size farms get a better break than big industrial farms in Brannan's program.

He would limit government guarantees to a fixed maximum production of crops on a single farm. Today, this works out to provide supports for the farmer's first \$25,000 of gross income. Volume over that would have to take its chance in the market place.

**QUOTE-OF-THE-WEEK** is Bevin's blunt statement that Britain has turned European. He said it before the National Press Club, his only public appearance here.

Bevin was overshadowed by Churchill, who spoke just a few hours earlier, in Boston. But Washington—both at State Dept. and ECA—count Bevin's remarks the more significant. Here's the nub of what he said:

"I ask you not to underestimate the decision Great Britain herself had to take when we accepted this offer (the Marshall Plan) . . .

"There we were, lying on the edge of Europe,

with a sea between us, and yet using our influence to stop any one nation for centuries from dominating that continent . . . but never really of it . . .

"Could we play that role any longer? We came to the conclusion we could not . . .

"We decided that if Europe with all its great possibilities was to be saved, then Great Britain . . . must become European. That course we have decided and we are pursuing it with vigor."

It was the unequivocal language Bevin used that impressed Washington. Britain has been moving into the European community for some time.

She is joined with France and the Low Countries in the political-military Brussels Pact. Economically, under ERP, she has been making sterling available to Marshall Plan nations to buy British goods. And, in Germany, she has agreed to give up her reparation rights in German plants to speed European recovery.

But Washington has felt that Britain had to be pushed into these things. Last year, Hoffman's people were complaining that Britain was dragging her feet on European cooperation.

**THE SELLING JOB** on Truman's Point 4 to develop backward areas is getting under way.

First evidences:

- The current issue of the Democratic Digest carries the word to party workers from the man in charge, State's Willard Thorp.

- Last week, Interior Undersecretary Chapman told the story to Jefferson-Jackson diners at Des Moines.

The accent is on export of U. S. technical know-how. Money is being soft-pedaled.

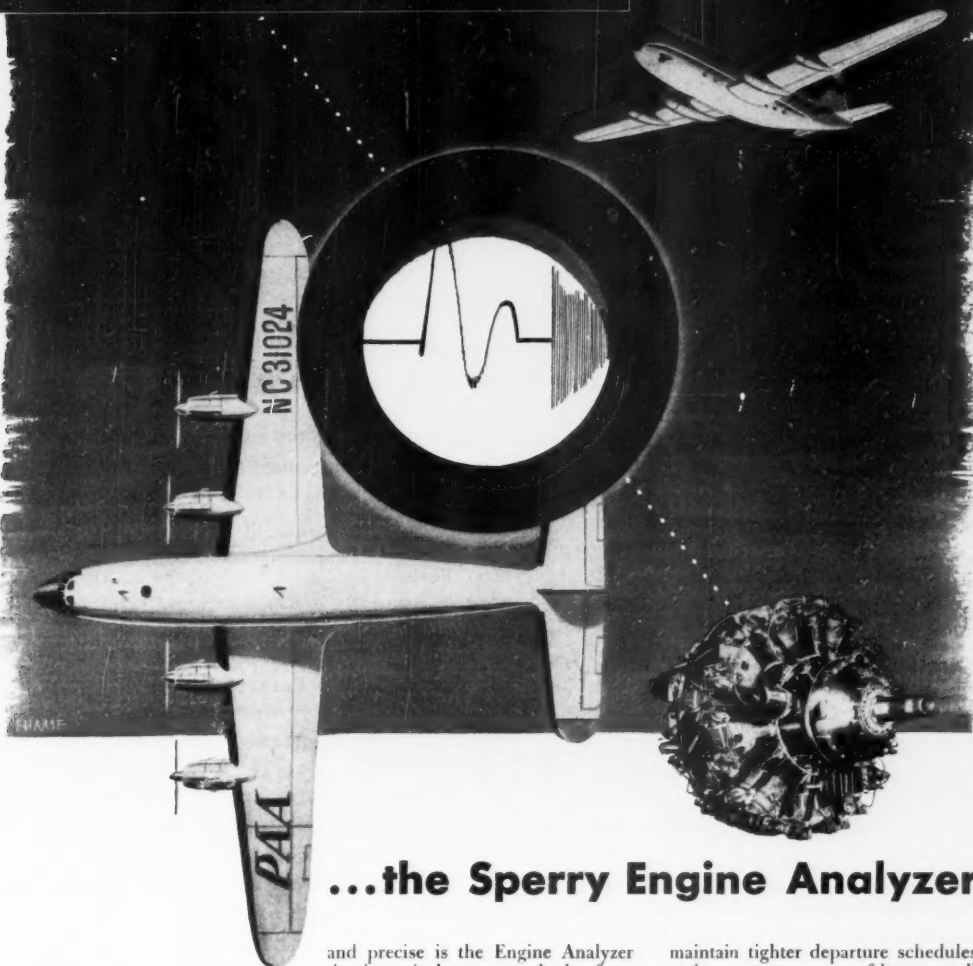
- Butter lobbyists take comfort from this: Women in the House voted three to two against repeal of the 10¢ penalty tax on colored margarine . . .

- The local decontrol provision in the rent control law plays into the plans of C.I.O.'s Political Action Committee. It gives Jack Kroll the issue he needed to stir up labor interest in this year's city council elections.

- Sawyer's task force has found 5-million tons of steel scrap in Japan. It's recommending a program that would reverse the pre-Pearl Harbor flow for stockpiling here.

- Henry Wallace has lined up a stable of five Marshall Plan nation party-liners to make a nationwide stumping tour of the U. S. preaching "peace and abundance."

## Picture of a Sky-Giant's Heartbeats



## ...the Sperry Engine Analyzer

✕ High over the Atlantic and Pacific, the engines of Pan American's giant Stratocruiser and Constellation-type Clippers\* will have every piston beat constantly checked by the Sperry Engine Analyzer. The first airline to install the Engine Analyzer, Pan American is confident it will open up "a new era in airline maintenance."

✕ Interpreting the graph-like patterns in the Analyzer scope, the Flight Engineer can *detect, locate and identify* every engine, magneto or ignition irregularity that might occur during flight or pre-flight check. So sensitive

and precise is the Engine Analyzer that it can isolate one spark plug from among the Stratocruiser's 224 or the Constellation's 144.

✕ Working from the Flight Engineer's accurate report of his engines' performance, the ground crew can perform its maintenance without the loss of time involved in trial-and-error trouble-shooting. Thus, by reducing maintenance time, the airline can

maintain tighter departure schedules and assure passengers of less over-all travel time.

✕ Sperry's Engine Analyzer is the first complete instrument provided for commercial aircraft to isolate detailed engine irregularities. Now in full production for airline use, the Engine Analyzer takes its place beside the many other Sperry products designed to aid commercial aviation.

\*TRADEMARK, PAN AMERICAN AIRWAYS, INC.


### SPERRY GYROSCOPE COMPANY

DIVISION OF THE SPERRY CORPORATION • GREAT NECK, N.Y.

NEW YORK • CLEVELAND • NEW ORLEANS • LOS ANGELES • SAN FRANCISCO • SEATTLE  
IN CANADA: THE ONTARIO HUGHES OWENS COMPANY, LIMITED • OTTAWA

# LIGHTING NEWS



Stiffer competition for the buyer's dollar has more and more businesses modernizing with new lighting. Many are installing slimline lamps, an advanced type of fluorescent introduced by General Electric. Advantages are: longer length (up to 8 feet), giving long, unbroken lines of light. Instant starting—no starters required. Easier, cheaper maintenance. Greater efficiency. Choice of 3 brightness levels.

Lower-than-prewar price is the rule rather than exception for General Electric lamps. In addition, today's lower-cost fluorescent lamps give more light and last longer, on the average. Actually, General Electric makes close to 2,000 changes a year in specifications to improve lamp quality and manufacturing procedures.

Warehousing facilities for General Electric Lamps in five new cities, (Omaha, Buffalo, San Diego, Memphis and New Haven) are speeding shipments of lamps to G-E Lamp suppliers. This brings the total of such cities to 36, most extensive in the business.

Six basic plans meet most needs. Analyzing hundreds of industrial lighting installations, General Electric lighting engineers have found most plant needs fall into one of six basic lighting systems—with combinations and adaptations to suit the individual needs of each plant. Basic points of each are described in "Six Recommended Lighting Systems for Industry," recent publication of G.E.'s Engineering Division. Copy Free. Write General Electric, Div. 166-BW9, Nela Park, Cleveland 12, O.

Where the lighting dollar goes. Major part of your lighting costs is maintenance, current, interest and depreciation, not cost of lamps. But efficiency of lamp bulbs is important in determining how much you get for your lighting dollar. Quality of General Electric lamps is assured by more than 480 tests and inspections.

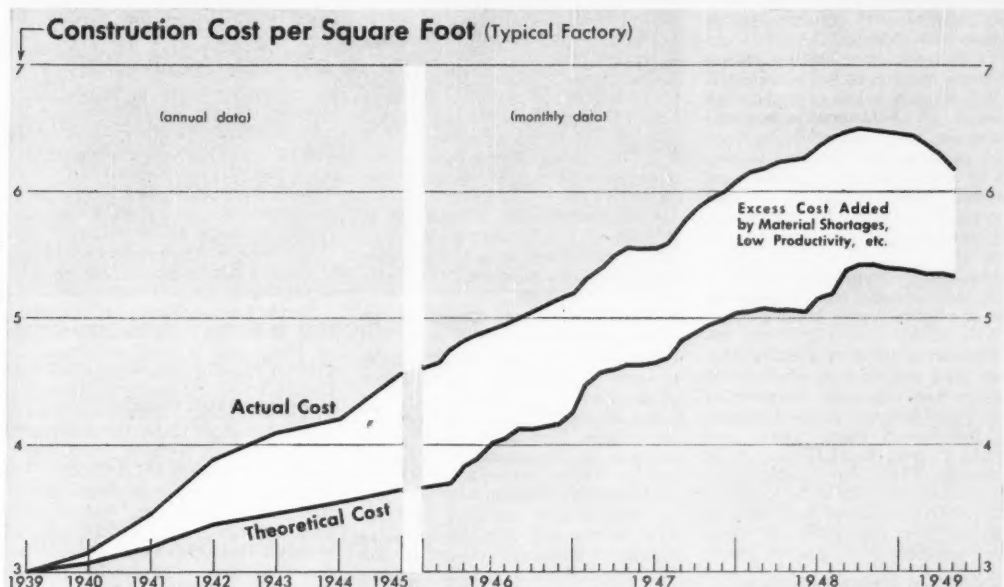
New kind of lamp bulb announced by General Electric. Greatest improvement in the quality of incandescent lighting since G.E. introduced inside-frosted bulbs in 1925 is G.E.'s new 100-watt Deluxe-White bulb. Light is softer, better diffused; annoying reflections from glossy surfaces greatly reduced. Ideal for use where any part of bulb is exposed. List price, 20¢, plus tax. Quantity limited. But free sample for comparison with standard 100-watt bulb will be sent on request. Write General Electric, Div. 166-BW9, Nela Park, Cleveland 12, O., on your letterhead.



For complete information on lighting and lamps, see your local General Electric lamp supplier.

*You can put your confidence in—*

**GENERAL  ELECTRIC**



TO MEASURE THE RISE in the expense of building a factory that would have cost \$3 a sq. ft. in 1939, you have to look from several angles. Increases in the cost of labor and materials (lower line, based on the Engineering News-Record index) by no means

tell the whole story. Because of hidden factors, actual costs to the buyer (upper line, computed by Walter Kidde Constructors, Inc., on the basis of its experience) have been much higher. But the gap has narrowed in recent months. That's one reason . . .

## Construction Costs Begin to Ease

Many materials are getting cheaper. Contractors no longer pad their bids to hedge against possible price rises. And hidden costs, such as slowdowns due to shortages, are declining.

After nine years, inflation has blown itself out in one of the major areas of U. S. business. Industrial construction costs have finally turned down.

For business generally, this means that one of the main threats to industry's capital-expansion plans (page 26) is receding. For overloaded municipal taxpayers, it means that the costs of public works may weigh a little less heavily on state and city budgets.

• **Extent**—If you want to let a contract for a factory building this spring, you probably can get a bid 5% to 10% below what it would have cost you last fall. On highways, bridges, and similar projects the saving may run up to 20%. Many states and cities are getting pleasant surprises these days when they open

bids on projects that their engineers estimated a few months ago.

Kansas City, Kan., for example, took bids in March, 1948, on a project known locally as the Central Ave. viaduct job. The low bid was \$876,309 for the entire job. Legal technicalities tied up the project so long that Kansas City had to take new bids on Feb. 17 this year. Plans and specifications were exactly the same. City engineers had estimated earlier that the cost would rise to \$925,826. But the low bid was \$849,693.

In Washington last week, the House lopped 15% off appropriations for the Army Engineers and for various reclamation projects (BW-Apr. 2'49, p15). The explanation was that the estimates,

prepared last fall, had allowed for an expected increase in costs that did not come.

• **Not the Whole Story**—Only a part of the recent change in the cost picture shows up in the indexes that measure materials prices and wage rates. The building-cost index compiled by Engineering News-Record, a McGraw-Hill publication, has been working its way down since the last quarter of 1948. But the total decline to date puts it only 1½% below its peak.

There are two things, though, that don't show up in the ordinary cost index:

(1) **Hedge against price rises.** As long as materials prices and wage rates were shooting up, contractors knew that costs on any long-term job would be higher at the finish than at the start. They automatically hiked their bids to cover themselves.

Now, contractors are getting firm prices from their suppliers. They can



afford to let the air out of their bids. And tougher competition for jobs is making them do it.

(2) **Hidden costs.** Low productivity and shortages of materials added "invisible" costs to every construction job for the first three years after the end of the war. Bottlenecks in supplies sometimes stopped work entirely. Green help ran labor costs up.

For instance, one South Carolina contractor says that he had to add 15% to 20% to every bid to cover the costs of delays. "I would move in men and equipment on a project," he says, "start working, and then have to stop and sit around because I couldn't get material. While I waited for the stuff to come, my expenses for maintaining that crew and equipment went right on piling up."

• **How Much?**—Around the middle of 1948, these invisible costs boosted the price of a typical factory building about 20%.

Take for example a building that would have cost \$3 a sq. ft. in 1939. The climb in wages and the prices of materials (as measured by the Engineering News-Record index) would have boosted its price to \$5.43 a sq. ft. in September, 1948. But Walter Kidde Constructors, Inc., one of the big industrial builders, estimates from its own experience that the actual cost would have been about \$6.50 a sq. ft. (chart, page 19).

• **Getting Smaller.**—Since last fall, the spread has been narrowing. This month, the Engineering News-Record index would give a price of \$5.34 a sq. ft. for the same building. The actual cost, according to Kidde, is \$6.18.

Bidders think the spread will narrow even more in coming months. They also think that materials costs (but not labor costs) will continue to ease off. They are cautious about predicting any dramatic drops in total costs—either actual or theoretical. But the past few weeks have seen a shower of price cuts, all fairly small individually, which could add up to a good-sized saving in total costs.

• **Starter.**—The first real break came in lumber. Actually, that started over a year ago. Lumber prices reached their peak in February, 1948. They broke in March, rallied again to a secondary peak on July 1, and since then have declined steadily for nine straight months. At the start of April, this year, they were 12% below their February, 1948, high—but still 163% above 1939.

During most of 1948, the drop in lumber was more than offset by the third round of construction wage boosts, and by the price rises in steel and cement that followed the switch from basing-point to f.o.b.-mill pricing.

• **Followers.**—But in the past month other prices have started down. Breaks

in steel scrap and the nonferrous metals in primary markets (page 94) have set off repercussions.

Warehouse prices for structural shapes were cut from \$5.65 to \$5.45 a 100 lb. in Cincinnati and from \$5.71 to \$5.13 in New York.

Galvanized sheets and pipe have reacted to the break in zinc prices. Republic Steel cut galvanized sheets by amounts running to \$5 a ton. Carnegie-Illinois cut them between 80¢ and \$5 a ton, depending on the gage. National Tube has raised discounts on galvanized pipe, so that the price is down \$3 a ton. Youngstown Sheet & Tube cut galvanized pipe \$1 to \$3 a ton, depending on size.

Sheet-conduit prices dropped 3% to 6% during March. Fittings and couplings went down as much as 10%. Steel outlet boxes dropped 3% to 10%; armored cable, 10%.

• **Labor Cost—Wage rates** show no signs of softening, except in one or two exceptional areas. The best that builders hope for is to avoid a fourth round of increases.

But labor productivity has been edging upward. Contractors in 16 cities surveyed by Engineering News-Record estimate that by September, 1948, the productivity of common labor was back to about 82% of the 1939 level. In 1946, it was only 65%. Skilled labor (average of carpenters, ironworkers, and bricklayers) shows a gain in efficiency from 64% of the 1939 level in 1946 to 73% in September, 1948.

• **Lower Bids.**—All this shows up in the bids that contractors are putting in for the big industrial and public-works jobs.

Last September, the Army Engineers got an average of four bids per job on 56 bid openings (BW—Apr. 2'49, p15). Low bids averaged 4% higher than government estimates. This March, the Engineers averaged six bidders on each of 15 openings. Low bids ran 74% below estimates.

• **Some Local Jobs.**—In January, Pennsylvania asked for bids on a \$2-million dam. It got four, but all had to be rejected because of a legal tangle. When the state asked for bids again in February, the same four companies responded—and in each case the bids were lower the second time.

On Mar. 16, Greenwood, S. C., opened bids on a waterworks-improvement job. The engineer's estimate was \$48,140. The low bid, submitted by Riddlehuber & Co., of Greenwood, was \$28,094.

In Los Angeles, engineers estimated a parkway undercrossing would cost \$674,907. Low bid was \$506,752. All 10 bids received were under the estimate. The California Highway Dept. reports that, in general, the bids it is getting this year run 25% to 30% under 1948.

## Auto Prices Down

Ford and Nash joining trend to cut quotations slightly. Trucks affected, too. More cuts may follow.

The Harvard student newspaper reporter had a question: "When will we be able to buy a new car for \$1,500?" he asked Henry Ford II.

Ford replied, "Of course, it depends a lot on union demands, but lower car prices this year are possible."

• **Spur.**—That remark, at a Boston press conference, was enough to set rumors flying. Ford was going to cut prices, soon. Ford dealers howled from coast to coast: Customers were holding off, hoping for action.

Result: Last week end, six days later, Ford Motor Co. cut prices \$12 to \$30 on Fords, \$80 to \$120 on Mercurys, \$100 on Lincolns. (The 6-cylinder Ford business coupe still lists at its old price: \$1,236 at Detroit.) This week, dealer discounts, which had been reduced about 2%, were restored to the traditional 24% to 25%.

• **Trend.**—General Motors, Willys-Overland, and Kaiser-Frazer had already come out with price cuts (BW—Apr. 2 '49, p21). These, plus Ford's move, make one thing clear: The day for general price revisions throughout autodom is at hand.

This week Nash division of Nash-Kelvinator Corp. joined the ranks. Nash reduced list charges from \$20 to \$120 on its two series. George W. Mason, N.K. president, said more materials at lower costs, more output, and uninterrupted schedules explained the cuts.

Also this week, Ford Motor Co. of Canada, Ltd., pared prices from \$30 to \$114 on passenger cars, from \$16 to \$42 on lighter trucks.

Only prior trucks-price drop of note has been the \$100-to-\$150 cut on GMC's.

• **Summing Up.**—Here's the auto price-cut lineup, in chronological order:

### General Motors Corp.

Chevrolet	.....\$10
Pontiac	.....\$15
Oldsmobile	.....\$15 and \$20
Buick	.....\$16 to \$30
Cadillac	.....\$25 to \$40

Willys-Overland .....\$40 to \$270

### Kaiser-Frazer Corp.

Kaiser	.....\$314 and \$333
Frazer	.....\$198 to \$316

### Ford Motor Co.

Ford	.....\$12 to \$30
Mercury	.....\$80 to \$120
Lincoln	.....\$100
Ford Motor of Canada	.....\$30 to \$114

Nash .....\$20 to \$120





## Crowds Pick Filene's Basement Plan

Filene's revived its annual \$11 bargain-basement sale of men's clothing last week. At 8:30 a.m. Monday the Boston department store threw on sale 7,000 suits, topcoats, and overcoats—cash and carry, no alterations—bought during a three-year period from 18

nationally known stores. Regular price tags on the garments had read from \$27.50 to \$55. Customers lined up at 6 a.m.; there were 3,000 milling around when the doors opened. By 8:30 p.m. a weary staff of 200 salesmen had sold out the entire stock.

## Sears' Expansion Pays Off

Board chairman Robert E. Wood says postwar program is complete. He believes the company is stronger than ever financially. It broke all sales and profits records last year.

Ever since the war, retailers have tried to keep close watch on the big expansion program of the country's mail-order giant, Sears, Roebuck & Co. But until last year's report (BW—Apr. 3 '48, p66), Sears had kept the details of the program under its hat. Meanwhile, sales doubled from \$1-billion in 1945 to a shade under \$2-billion in 1947.

Last week board chairman Robert E. Wood brought the story up to date as he made public the annual report for the year ended Jan. 31, 1949. For the first time he disclosed the full scope of the company's postwar expansion program, which has now been completed.

- **Biggest Year**—Wood also announced that Sears in 1948 had the biggest sales (nearly \$2.3-billion) and net profits (\$137.2-million, equal to \$5.80 a share) in its history.

At the same time, Gen. Wood gave a firm reply to critics who have charged that Sears' heavy investment in new and bigger stores, mail-order plants, and warehouses may have strained the company's resources dangerously.

- **Divergent Policies**—In the past three years, Sears has invested a total of \$184-

million in capital improvements. Of this total, \$67-million came from the sale of retail-store properties to insurance companies, \$117-million from earnings. The postwar tally on stores comes to 75 built or relocated, 38 given major additions.

No two policies could be more divergent than Sears' and the one that its nearest competitor, Montgomery Ward & Co., now pursues. Ward's board chairman, Sewell L. Avery, feels that this is no time for expansion, with costs high, so he has allowed no capital improvements. Instead, Avery has preferred to lay up reserves against future inventory losses and to pay favorable dividends (BW—Jun. 26 '48, p24).

- **Other Outlays**—Sears reports other big outlays besides those for expansion. It has had to provide the cash to carry an inventory \$220-million larger than prewar.

But despite this, says Gen. Wood, Sears wound up the year in the strongest financial position in its history. It had (1) no fixed debt, (2) no bank loans, and (3) a cash balance of \$200-million—\$81-million more than the total of

both cash and short-term government securities held a year earlier.

- **Philosophy**—Gen. Wood had something to say on the philosophy behind Sears' expansion program of the past 10 or 15 years. The company believes that it should plow back into the communities where its stores are located some of the money it makes there. This means up-to-date stores to serve community needs, Gen. Wood says the company doesn't approve of the emphasis many retailers now put on an absolutely liquid position and on the smallest possible investment in brick and mortar.

Future Sears' expansion will depend on the growth of individual communities. The rate, however, will be less than the past three years. Gen. Wood estimated expenditures on future expansion at about \$20-million to \$35-million a year.

Here are some other highlights from the Sears' 1948 report:

NET INCOME represented 5.98% on sales, compared with 5.44% in 1947.

MERCHANDISE INVENTORIES were down \$1.8-million from the 1947 peak.

GOODS ON ORDER stood at \$263.3-million, down \$84.8-million because Sears can now get quicker deliveries.

FOREIGN INVESTMENT totaled \$11.5-million, with two Latin American stores (Rio de Janeiro and Caracas) under construction (BW—Mar. 5 '49, p109).

The outlook for 1949 sales so far appears less promising than 1948 to Sears executives. Sales so far are lagging 8% to 13% behind last year's figures. But Sears merchandisers aren't pessimistic. They attribute this drop in part to the return of normal seasonal buying patterns.

## KINKS IN OHIO CONVEYOR

The proposed \$210-million, 130-mi. conveyor belt from the Ohio River to Lake Erie (BW—Feb. 12 '49, p45) is under heavy fire. Twelve railroads and the combined railroad brotherhoods are doing the shooting. They have just killed all chances that this year's session of the Ohio legislature will pass a law enabling the line to operate. That means a wait for the 1951 legislature.

The railroads insist that, to qualify as a public utility, the belt—which would haul coal, iron ore, and limestone for Akron, Canton & Youngstown R.R.—must carry other things besides "the cream of the traffic." Their charge: The belt operation would drive rail freight rates higher. Belt backers reply that, at most, the conveyor would take only 2.5% of the railroads' revenue.

Meanwhile, the United Rubber Workers (C.I.O.) has jumped into the fight—in defense of the conveyor belt.



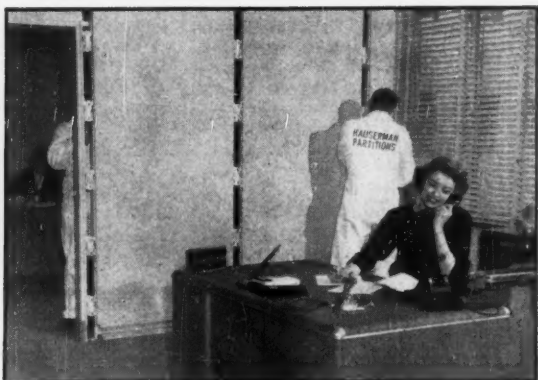
**1** General Petroleum Corp. building in Los Angeles is modern inside and out. Window fins deflect hot sunrays



**9** Floor rests are pried up from bolts which hold them to floor. The rug will have to be patched later



**2** Office space, designed on modular basis, offers maximum flexibility. In 37 minutes these two offices will become one

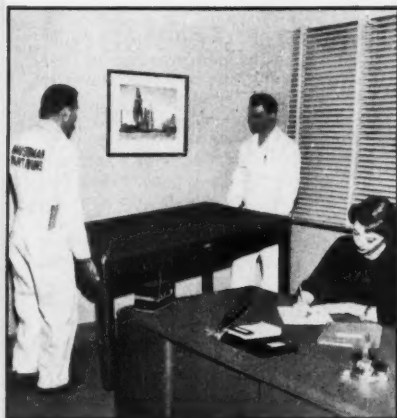


**6** Steel clips which hold panels together are exposed as covering stripping is removed

## Office Remodeled in



**10** Job is finished. Small holes left in ceiling by channels are plugged with asbestos cement



**3** Workmen arrive. Only piece of furniture they have to disturb is table by wall



**4** First step in taking down wall is to rip off flexible baseboards



**5** Molding at top of wall, held by tension to channel in ceiling, comes off



**7** As executive and secretary go about their business, workmen take down last full-size panel



**8** Workman draws away last of small sections from the wall panel which supported it

## 30 Minutes in New Los Angeles Building

On Flower St. and Wilshire Blvd. in Los Angeles last week businessmen got a look at a building designed for postwar business living.

The new General Petroleum Corp. structure makes a reality of some of the most advanced ideas in commercial architecture. It is clean-cut, adaptable, flexible. The ease with which office space can be remodeled is shown on these pages. Not shown, but equally important, are the great savings in costs if the interior is re-jiggered. On today's market, tearing down a wall of plaster and concrete can be a \$1,000 job—not considering the time and inconvenience involved.

• **Modular Design**—The key to the building's flexibility is the commercial adaptation of the module (BW—Sep. 13 '47, p. 54). The architects, Walter Wurdeman and Welton Becket, thought this the best way

to meet the changing needs of a company like General Petroleum. Thus, they designed every one of the building's 13 floors on a basic module of seven feet. For every seven-by-fourteen foot area there is an air-conditioning outlet, a thermostat, telephone outlet, lights, a window, and plumbing for a washstand. With the movable partitions, made by E. F. Hauserman Co., Cleveland, an office can be any combination of these dimensions.

• **Savings in Weight**—Structurally, the building makes the most of lightweight materials. Some 13,000 tons of dead-weight in the building were eliminated by using pumice concrete and hollow permanent walls of the rockite. These weight reducers in turn permitted a lighter steel framework.

The building is completely air-condi-

tioned. Even this feature is designed for flexible use: Any part of any floor may be serviced at night or on holidays, without servicing the whole building. Vertical aluminum fins along the windows on three sides of the building take part of the load of the air-conditioning equipment—by shading the windows from the pelting heat of an afternoon California sun.

• **Occupants**—About 45 companies have leased space in the building, although General Petroleum itself is using a major part of the 500,000 sq. ft. In line with Los Angeles height limitations, the building rises to only 150 feet. Its construction cost some \$8-million; following a now-common practice in business real property arrangements, General Petroleum has sold it to New York Life Insurance Co. and leased it back.

# "Ghost" Orders Fan Out

Cutting-tool makers are second industry to get notification of what the armed forces will need if war comes. Machine tools were first. Next in line: gages, bearings, industrial furnaces.

Within a week, the government will start sending out its second batch of "ghost" war orders. They will go to about 75 manufacturers of cutting tools. (The first batch covered the machine-tool industry.)

• **More Coming**—Eventually, the National Security Resources Board, Uncle Sam's war-planning agency, hopes to cover every standard product that could be used for military purposes. Next month it plans to issue phantom orders for gages. Later orders are to cover anti-friction bearings, factory-made industrial furnaces, and, perhaps, fractional-horse-power motors.

The board has abandoned an earlier plan to place phantom orders for abrasives. Instead, the Munitions Board will stockpile these. That's because abrasives are easy to store, and don't deteriorate.

• **What a Ghost Is**—As their name implies, ghost orders don't call for any actual production—yet. They merely tell manufacturers in detail what the government will want them to supply at once when and if any shooting starts. This gives the manufacturers time to contact their suppliers and subcontractors, and to make production plans.

In case of war, the orders can be put into immediate effect by a telegram from the government (BW—Aug. 21 '48, p. 21; Oct. 9 '48, p. 21).

• **Sequence**—It is logical for cutting tools to follow machine tools in the parade of ghosts. Cutting tools are the business end of machine tools. Neither kind of tool can operate without the other: Cutting tools must be inserted in machine tools to be of any use; machine tools can't do any work without cutting tools.

NSRB describes cutting-tool manufacturers as "a small, specialized industry, essential in the manufacture and maintenance of practically all the weapons of war." It points out that, though the cutting-tool trade is only one-third the size of the machine-tool industry, it's fully as important from a military standpoint.

• **\$60-Million**—The cutting-tool orders that will go out starting next week will cover \$60-million worth of tools made with high-speed steel. The dozen companies that make cemented-carbide cutting tools will get their orders later. Reason: NSRB's study of the country's capacity to produce carbide tools isn't completed yet; so NSRB doesn't know how many of these tools to order.

The government has a substantial re-

serve of cutting tools (the exact size is a military secret). So the total of ghost orders is comparatively low in relation to the industry's capacity.

• **What Is Capacity?**—An unpublished report by NSRB quotes the Metal Cutting Tool Institute as estimating production of its members at \$84.6-million in 1947—the latest year available. This compares with estimates of \$178-million in 1942, the wartime peak, and \$47.1-million in 1940. The industry at present is running on a one-shift basis—and this shift is not at full capacity. Full operations on one shift could probably boost output by 33% over 1947 output. Adding a second shift would add the equivalent of 90% of full first-shift output; a third shift would add another 60%.

These figures are all for institute members. To get total capacity you have to



## For Federal Efficiency

To keep steam up behind the Hoover Commission's recommendations for a more efficient government is now the job of Charles B. Coates (above). He has been named vice-chairman and general manager of the Citizens Committee for Reorganization of the Executive Branch of the Government. Coates assisted Herbert Hoover during the commission's fact-finding study. He formerly was assistant director of public relations for General Foods Corp., before that an associate editor of *Factory*, a McGraw-Hill publication.

add 30% to account for production by nonmembers. Thus, the total annual capacity of the industry, based on 1947 output of institute members, comes to more than \$350-million.

• **Variety**—The orders for high-speed-steel tools are based on dollar value rather than number because of the great differences between various types of cutting tools. They include such items as: counterbores, cut-off blades, metal-slitting saws, drills, taps, dies, and broaches.

Orders will be reviewed once a year. That will give the government the opportunity to revise them in line with technological developments and changes in reserves, industry capacity, and military needs.

• **High Priority**—The NSRB report recommends that manufacture of cutting tools be given the highest priority in the event of a war, both "ahead of and along with the manufacture of weapons of war." It calls for draft deferment of industry employees, particularly skilled ones.

The report also recommends inspection, inventory, classification, and storage of the stockpiles of cutting tools owned by the Army and the Munitions Board. It says a staff should be hired at once to complete the job quickly. The report warns: "According to the present rate at which this work is now being carried on, it will take at least two years to do the job."

• **Experiment's Result**—The first batch of ghost orders covered about 100,000 machine tools. The experiment, according to Edward V. Hickey, director of NSRB's Office of Production, was completely successful. The whole thing went ahead without requiring any major revisions in the plan.

Every machine-tool builder in the country cooperated. Each one told NSRB whether it could handle such an order with its present capacity—and almost all of them can.

The manufacturers have also contacted their suppliers and subcontractors, and have everything lined up for wartime production. The companies have told the board their manpower requirements.

NSRB even turned up a dozen or so machine-tool manufacturers it didn't know existed. Somehow—perhaps because they are small—the Commerce Dept. missed them when it compiled the list for the board. But the companies that were left out soon heard about the phantom orders, and told NSRB that they, too, want to do their part.

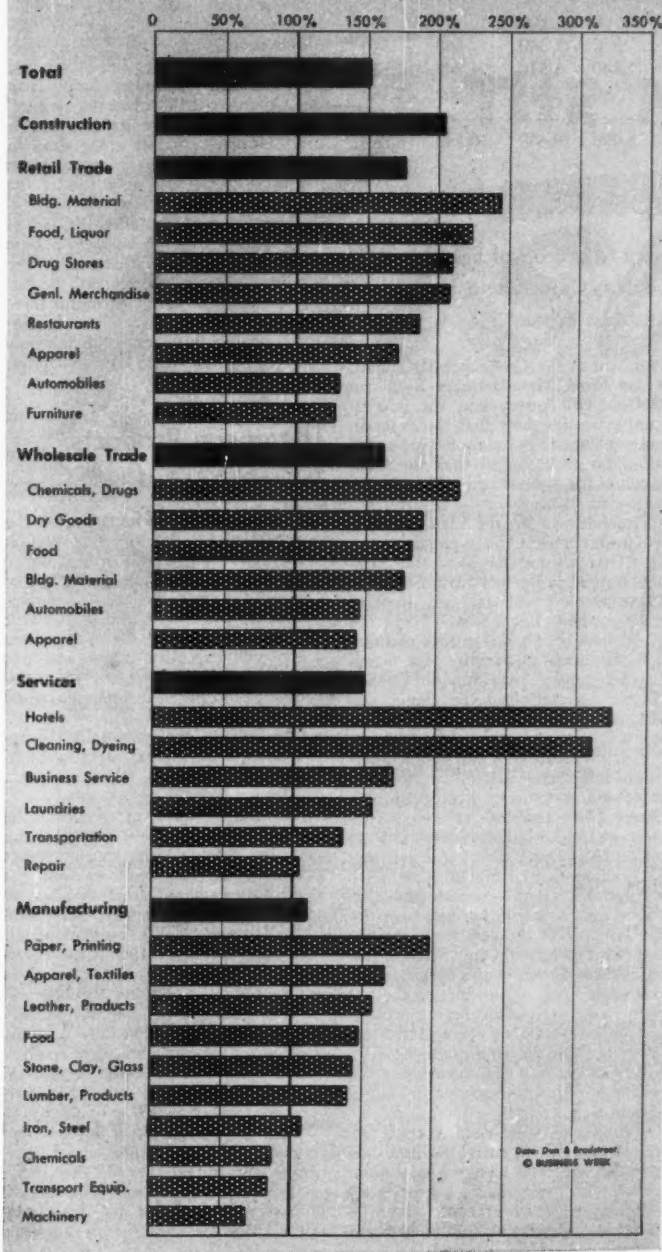
• **Talk and Action**—NSRB officials say, for the record, that they only "plan" to extend the phantom orders to other industries. That's because they still consider the whole thing an experiment.

But their actions indicate that they are really convinced that they should go ahead on a wide scale.



# Failures Grow as Competition Returns

Failures in Year Ended February, 1949  
as a Percent of Failures in Previous Year



Comparisons of casualties in various businesses during last two years show big jumps among construction and retailing firms.

Business casualties are rising these days pretty much in direct relation to the spread of the buyers' market.

• **Expected**—During the war, and until most of the shortages were met, business failures were uncommon. But that didn't close anyone's eyes to the fact that they would come back. For one reason, a lot of people with little or no business experience had plunged in on a shoestring. For another, a lot of war-born businesses lacked seasoned management—men who knew how to sell rather than just take orders.

The chart (left) shows how failures compare in the last two years. The lines do not show the actual number of failures. For instance, while hotel failures show the greatest rise, there were fewer hotel failures reported than in other businesses, except apparel and dry-goods wholesaling.

• **Actual Numbers Listed**—Dun & Bradstreet's figures on the number of failures in various businesses compare as follows:

	Years Ended Feb. 1949	1948
Construction	510	249
Retail Trade	3,452	1,394
Bldg. Material	171	70
Food, Liquor	598	266
Drug Stores	61	29
Genl. Merchandise	113	54
Restaurants	469	251
Apparel	350	203
Automobiles	209	160
Furniture	256	199
Wholesale Trade	757	464
Chemicals, Drugs	43	20
Dry Goods	21	11
Food	205	112
Bldg. Material	64	36
Automobiles	41	28
Apparel	26	18
Services	490	327
Hotels	26	8
Cleaning, Dyeing	56	18
Business Service	68	40
Laundries	28	18
Transportation	180	133
Repair	76	73
Manufacturing	1,498	1,362
Paper, Printing	69	35
Apparel, Textiles	197	119
Leather, Products	77	49
Food	187	126
Stone, Clay, Glass	46	32
Lumber, Products	272	195
Iron, Steel	87	81
Chemicals	49	57
Transport Equip.	46	54
Machinery	210	308

## Outlays for New Plant and Equipment

(In Millions of Dollars)

	Actual 1948	Estimated 1949	1st Half		2nd Half	
	Total	Total	Actual 1948	Estimated 1949	Actual 1948	Estimated 1949
Manufacturing .....	\$8,340	\$7,240	\$3,940	\$3,800	\$4,410	\$3,440
Mining .....	800	820	380	370	420	450
Railroad .....	1,320	1,450	580	800	730	650
Other transportation ..	700	650	370	340	340	310
Utilities .....	2,680	3,130	1,140	1,510	1,540	1,620
Commercial and misc.	5,390	5,010	2,580	2,650	2,800	2,360
Total .....	\$19,230	18,310	8,990	9,460	10,240	8,850

## Capital Spending Tapers Off

Commerce-SEC estimates point to a drop of 5% this year under 1948's total. Manufacturers' outlays are falling faster than the rest. But there's no sign of a disastrous break.

Business spending for new plants and equipment will continue to ease off in the second half of 1949. But it will still be running at a high rate—not far below the record-breaking levels of 1948.

That's the story you get from the latest estimates of the Securities & Exchange Commission and the Dept. of Commerce. Their quarterly survey of capital-expenditure plans shows that the total for the year will come to \$18.3-billion. That is only about 5% under the 1948 total of \$19.2-billion.

In dollar amount, 1949 outlays for expansion and modernization will be greater than any other year except 1948. In terms of physical units, they will be about equal to 1947. A larger slice of this year's spending will be going into modernization instead of expansion of capacity. This is especially true in the manufacturing group.

• **By Quarters**—The Commerce-SEC figures show first-quarter spending of \$4.7-billion this year. This is 12% above the first quarter of 1948. Allowing for seasonal factors, it represents about the same rate of business expansion you had in the final quarter of 1948 when expenditures hit \$5.4-billion.

The second quarter is running a little under 1948—\$4,780,000,000 against \$4,820,000,000. In the last half of the year, Commerce and SEC figure that outlays will dip about 14% under last year's rate.

These estimates check closely with the results of the McGraw-Hill survey of capital-spending plans, made late in 1948 (BW-Jan. 22 '49, p54). The McGraw-Hill survey showed that industry planned to spend \$14,130,000,000 on new plants and equipment in 1949. This estimate did not cover expenditures in the trade, service, and finance fields, which account for some

\$4-billion of the Commerce-SEC total.

• **Less From Manufacturers**—Both the McGraw-Hill survey and the government estimates show that the expenditures planned by manufacturers are falling off more sharply than the total. Much of the slack is being taken up by railroads and utilities.

Expenditures by the manufacturing group were \$1.9-billion in the first quarter. That is somewhat above the \$1.8-billion spent in the first quarter of 1948, when business was generally hesitant and uncertain. But it is well below the \$2.3-billion of the final quarter of 1948.

In the second quarter this year, manufacturers' outlays will drop to \$1,860,000,000, according to the Commerce-SEC estimates. In the same period a year ago, they were running \$2.1-billion.

For the year as a whole, manufacturers will spend \$7.2-billion for new plant and equipment, against \$8.3-billion in 1948. Railroads are expected to go up from \$1.3-billion in 1948 to \$1.5-billion this year. Utilities will rise from \$2.7-billion to \$3.1-billion.

• **Upward Revision?**—Nobody knows, of course, just how firm business plans for the last half of the year really are. In the past, Commerce and SEC usually have adjusted their figures upward as the year went along. This reflected the fact that many businesses were uncertain about their plans at the start of the year. In 1948, total business expenditures on plant and equipment ran about 3% above the estimates made in the second quarter.

The same thing could happen this year—especially if general business prospects improve and Congress goes home without passing new tax legislation. A drop in construction costs (page 19) might also bring some additional expansion off the shelf. But experts point out

that the price of the building is less important to the ordinary business than the price of the equipment that goes into it. About 70% of last year's outlays went for machinery and other equipment; only 30% was earmarked for construction costs.

• **Effect of a Nosedive**—A sharp drop in business undoubtedly would scare many companies out of the expansion they had tentatively planned. In that case, expenditures in the last half of the year would slide off much more sharply than the Commerce-SEC estimates suggest. But a high level of capital spending is itself insurance against a big drop in business. The spending for capital goods has been one of the mainstays of the postwar boom.

In general, the Commerce-SEC figures fit in neatly with the business picture this spring. They show that some of the pressure of heavy spending will be easing up from now on. That means there will be a general slackening in the pace of the boom. But they don't show any sudden drop that would knock the props from under business.

## Thompson Products Tries Remedy for Bigness

When a company expands to the point where its close-knit organization begins to stretch, what should it do?

Frederick C. Crawford, president of Cleveland's fast-growing Thompson Products, Inc., has recently faced that problem. His answer—which explained a series of executive promotions this week—is simply this: Regroup your company into integrated, autonomous operating units.

• **Old Spirit**—Crawford recalls the enthusiasm of his management team in the earlier days, when Thompson was a smaller, more intimate company.

Crawford decided to recapture the old spirit, and also leave officers of the company free to work on long-range planning. So he began to split the company up into distinct divisions as soon as it had completed its World War II contracts. The promotions last week were a continuation of the executive regrouping.

• **Promotions**—The Valve Division will be managed by G. R. Moore. He will direct the engineering, manufacture, and sales of automotive and aircraft valves. Other division posts—those of assistant general manager and sales manager—were also filled.

The Jet Division got an assistant manager—Irwin A. Binder—and a director of sales and engineering.

The Parts & Accessories Division was also given an assistant manager. He is E. P. Riley, promoted from engineering and sales manager.



**A SINCLAIR *First!***

# THE NEW *Rustop*



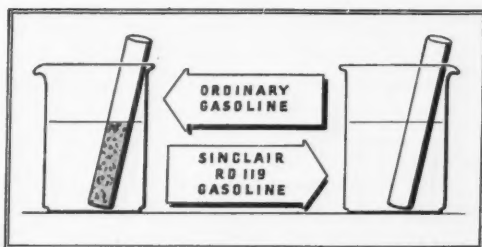
In RD 119 (Rustop), Sinclair's new rust preventive, we have found a product that completely ends the possibility of rust due to the moisture content of petroleum products. RD 119, a discovery of the Sinclair Research Laboratories, is now being used in all our products pipe lines.

Because it is so efficient that its protection lasts as long as the product with which it is mixed, RD 119 prevents rust in automobile tanks and fuel lines in which Sinclair gasoline is used. It saves us hundreds of thousands of dollars a year—it will save the gasoline user a great deal more. It also prevents the clogging of oil-burner jets.

This is another example of Sinclair's progressive research — another reason why . . .

**SINCLAIR —**

*is a Great Name in Oil*



**HERE'S LABORATORY PROOF** of RD 119's effectiveness in preventing rust! The bar of steel on the left of this diagram has been immersed in ordinary gasoline for 48 hours and is coated with rust. In your car, these rust particles can clog fuel lines, strainers, carburetor jets—cause extra wear on precision parts of the carburetor and fuel pump. Now note the bar of steel in Sinclair gasoline to which RD 119 has been added (*right*). This steel bar after 48 hours of immersion remains completely free of any sign of corrosion—RD 119 gives the same protection to the fuel system of your automobile.

**SINCLAIR OIL**  
CORPORATION

630 Fifth Avenue · New York 20, N. Y.

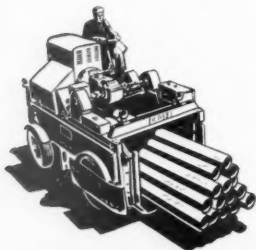


At Mechanical Handling Systems, Inc.  
it's CONVEYOR ASSEMBLIES

## ... are a *"CINCH"* for ROSS Lift Trucks

Handling this heavy unwieldy conveyor assembly is typical of the jobs expected to be done by ROSS Lift Trucks. And such unusual tasks are routine for the versatile ROSS. That is why more and more plants look to ROSS for time-saving, cost-reducing big-load material handling.

Profit from the experience of others... make the ROSS Lift Truck a vital part of your material-handling system. There is a wide range of dependable gasoline-powered models to fit your plant's specific needs. Three types, nine models... capacities from 5,000 to 18,000 pounds. Consult ROSS... it will pay dividends.

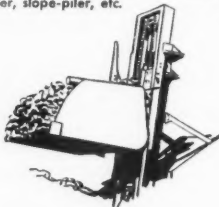


### ROSS INDUSTRIAL CARRIERS

Five types, capacities 10,000 to 30,000 pounds... cost-cutting team-mates of ROSS Big-Load Lift Trucks.

### SCOOP ATTACHMENT

Permits lift truck to efficiently handle coal, sand, snow and other loose materials. Controlled from driver's position. Easily attached and detached. Fits all models... Other attachments include ram, snowplow, side-shifter, slope-piler, etc.



*Rely On*  
**ROSS**

### THE ROSS CARRIER COMPANY

300 Miller Street, Benton Harbor, Michigan, U.S.A.  
Direct Factory Branches and Distributors Throughout the World

## BUSINESS BRIEFS

Second-line truck tires are being revived by rubber companies because of competition from the mass distributors. Firestone's "standard" line will be priced "substantially lower" than its other truck tires; so will Goodyear's version of its prewar Marathon line.

Warehousing deal between U. S. Steel Supply and Reynolds Metals (BW—Sep. 11 '48, p22) is ready to roll. Donald F. Stone is head of the new U. S. Steel sales division that will handle Reynolds' aluminum mill and building products.

Rayonier's first-quarter earnings this year were down from last year—\$1.71 a common share vs. \$2.16. President Edward Bartsch lays Rayonier's decreased sales to "temporary curtailment of production" by its principal customers, the viscose and acetate yarn producers (BW—Nov. 29 '47, p22).

Oleomargarine tax repeal has passed the House. Chances are the Senate will also approve of doing away with the 10¢ tax on colored margarine—if the legislative log-jam ever loosens up so the bill can get out of committee.

More natural gas is on the way for: (1) Ohio, via an 800-mile pipeline to be built this year by Texas Gas Transmission Corp.; and (2) the Northeast, because of Texas Eastern Transmission's plans to increase line capacity. The Federal Power Commission has O.K.'d both projects.

Rubber consumption in February slid into its slowest valley since mid-1947. The Commerce Dept. puts the month's use at 80,853 long tons as against 86,000-odd a year earlier.

Burned out Mar. 17, Prestole Corp. is already back in business, thanks to Toledo's community teamwork. Local firms helped the fastening maker to salvage, clean, and repair its dies, and to set them up in machines in another plant. Within a week, Prestole had three shifts working at full production. Customers are getting their orders on schedule.

U. S. shipyards turned out 126,418 gross tons of ships during 1948, a drop of 38,430 tons from 1947. It was the industry's worst year since 1936. Lloyd's Shipping Register say 65.4% of the U. S. output was built for foreign flags.

The New Haven R.R. does more than sell theater tickets (BW—Feb. 26 '49, p72). Now you can also make hotel reservations in Boston or Providence when you buy a train ticket in New York.

# This diesel went on a heavy diet to save thousands of dollars a year

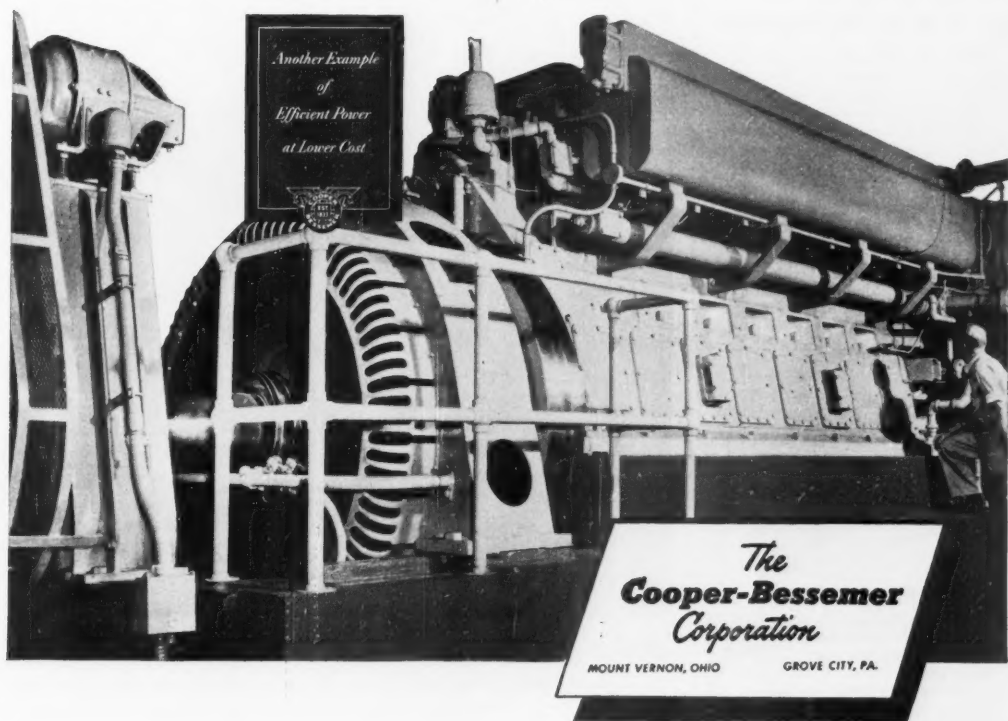
A GOOD diesel can often save a power user money in more ways than one. On the Island of Nantucket, for instance, this Cooper-Bessemer diesel saves \$11,950 a year by running successfully on fuel oil so thick and heavy it will hardly flow unless heated.

The Nantucket Gas & Electric Company needed more power than that produced by an aging steam turbine. A diesel was the logical, economical choice. But due to existing fuel storage facilities and the island's transportation problems, there would be tremendous additional advantage in fueling the engine with the same low-cost, heavy oil burned in the turbine boiler and used in the manufacture of gas. A Cooper-Bessemer

was picked because these modern engines had often shown their ability to run efficiently, reliably on heavy, cheap oils.

This and a whole raft of other outstanding performance records are made possible by refinements and new developments engineered at Cooper-Bessemer. Are you familiar with them? They are reducing expense in railroad and marine service, and in stationary power installations of every description.

So if you want to know how you can cut *your* power costs year in, year out, find out about the *new* things being done by one of America's *oldest* engine builders.



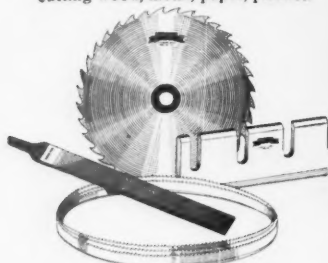
DIESELS • GAS ENGINES • ENGINE-DRIVEN AND MOTOR-DRIVEN COMPRESSORS • HIGH PRESSURE LIQUID PUMPS



## All Cut Up?

Here's how to get First Aid . . .  
Fast . . . on any cutting problem

If costs are cutting you to pieces on any operation involving wood or metal saws — or machine knives — remember this: *The quickest help you can get (as well as the most experienced) is from the nearest Simonds branch office.* So any time you're really cut up, just call for a Simonds Cutting Tool Engineer from Boston, Chicago, Portland (Oregon), San Francisco, Spokane or Montreal. He'll get there *pronto* . . . and show you the short-cut to profitable operation . . . with Simonds Tools for cutting wood, metal, paper, plastics.



**SIMONDS**  
SAW AND STEEL CO.  
FITCHBURG, MASS.

Other Divisions of SIMONDS SAW AND STEEL CO.  
making Quality Products for Industry

**SIMONDS**  
PORTLAND CEMENT  
Special Electric  
Refractory Steels

**SIMONDS**  
GRINDING WHEELS  
and Grains

**SIMONDS**  
PRODUCTS  
FOR CANADA

# CITIES

## Bait for New Industries

Industrial foundations offer many lures to attract new pay-rolls: land or buildings for sale or rent; loans; subsidies. Tulsa Chamber of Commerce reports on survey of foundations.

The postwar decentralization of industry has been a boon to many cities and towns. By and large, the ones that have benefited most are those which set out actively to get new industries. Many local governments have done this directly. But in a lot of cases, the job has been done by private organizations of public-spirited citizens, known as industrial foundations.

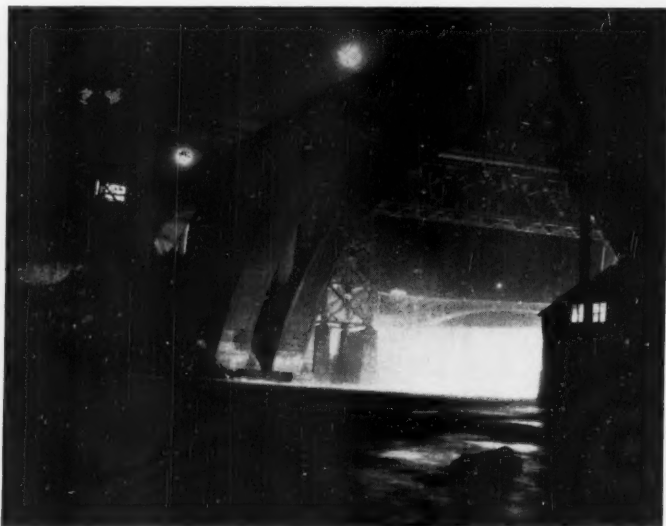
• **Survey**—It has been common knowledge that such outfits exist, and that their number has been growing rapidly since the war. But there has been no specific knowledge of how many there are and where, of how they are set up, of how they differ among themselves as to purposes and methods.

Now a comprehensive survey and analysis of industrial foundations is available. It was compiled for the Tulsa Chamber of Commerce by the cham-

ber's industrial department. A lot of data came from direct correspondence with chambers of commerce and industrial foundations themselves, all over the country.

• **Cross-Section**—The survey makes no pretense of having a complete list of all the foundations in the country. It is based on a good cross-section, however—70 of the groups, in 26 states (box, page 34). Of the 70, 21% are in cities of less than 5,000 population; 26% in cities with 5,000 to 25,000; 21%, 25,000 to 50,000; 19%, 50,000 to 100,000; and 13% over 100,000. More than 80% of them have been set up within the past five years. Oldest in the group—in La Crosse, Wis.—has been operating since 1911.

The report describes an industrial foundation as "a corporation provided with funds by public subscription or

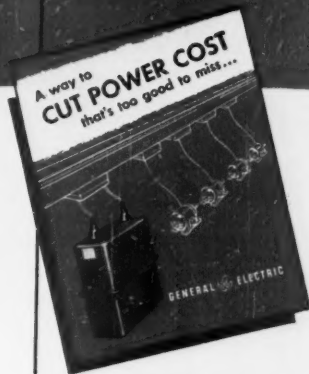


## Water Power Returns—in a Blaze of Light

The long winter is over for Spokane, Wash., and so is the power shortage that darkened the district during the record freeze. To celebrate, Spokane's citizens are reveling in a surge of light. Washington Water Power Co. has switched on a battery of

floods over the Spokane River cataract in downtown Spokane. The move serves as a gesture of thanks to the city for voluntarily cutting down on power used during the shortage, and it marks Washington Water Power's 60th anniversary.

# here's a "bank" that pays 633% yearly interest !!



**The Old Dominion Iron and Steel Co. of Richmond**, manufacturers of welded steel tanks, were in for a surprise. They decided to boost their power factor from 65% to 85% by installing a bank of 15 G-E capacitors—counting on power company bonuses for this higher power factor to pay for the installation in three years.

Faster and better welds provided the real pay-off. By cutting voltage drop, and particularly voltage variation as the a-c welders are switched on and off, the capacitors now pay

for themselves every two months in increased production. Total return—633% a year!

If low or varying voltage is slowing down *your* production, G-E capacitors may be your answer, too. If you have a power-factor or kva-demand clause in your power contract, they may give you substantial savings in power costs. They can also provide relief for overloaded feeders, transformers or switchgear. Better check with your nearest G-E representative today.

**A NEW BOOKLET** explains how capacitors work and gives specific data to show you what you may expect from them. Write today for Bulletin GEA-5167. Address Section 407-183, Apparatus Dept., General Electric Company, Schenectady 5, N. Y.

For other power distribution ideas that will save you money, ask your electric utility to show you the full-color slide-film, "Modern Industrial Power Distribution," or contact your G-E representative.

**GENERAL**  **ELECTRIC**



**Separates the Grain  
from the Chaff . . .**



**CLOSZ\*** Adjustable Sieves  
for Combines

made with  
**KEYSTONE WIRE**



Closz Adjustable Sieves can be quickly adjusted to any harvesting condition . . . eliminates the need for separate sieves for each crop. Adjusting feature permits instant cleaning without removing sieve from combine . . . reduces grain-waste and clogging. Used as standard equipment on combines and threshers . . . evidence of Closz's outstanding features.

\*Hart-Carter Company  
Webster City, Ia.—Peoria, Illinois

Sieves are the heart of the grain-cleaning action in combines and threshers. They vibrate at high frequency to aid the cleaning action.

Each sieve slot in Closz Adjustable Sieves is hinged on special Keystone wire. The wire must be stiff to resist torsion, yet ductile enough for severe bending operations. The wire must also be abrasion-resistant to withstand wear due to vibration. And, good spot-welding qualities are required.

We are proud that special-analysis galvanized Keystone wire meets these exacting requirements. Let Keystone's wire specialists help solve your industrial wire problems.

**SPECIAL ANALYSIS WIRE**  
for all industrial purposes

**KEYSTONE STEEL & WIRE COMPANY**  
PEORIA 7, ILLINOIS



donation, created for the purpose of encouraging the industrial development of a community by providing services of a financial nature to new or established industry." By industry, it means manufacturing enterprises only.

• **Evidence of Interest**—The very existence of a foundation is attractive to new industries, aside from the material help it may give. Many businessmen who have no need or desire to accept outside help feel that the fact that there is a foundation is evidence that their companies will be welcomed and be given loyal support by the community. For example:

A city in Oklahoma was asked to buy \$250,000 worth of stock in a company to help finance a new plant. The citizens subscribed to this amount of stock at a single public meeting—and the company went ahead with its new building. Before it was completely built, however, the company called in the stock certificates and refunded the money in full. Explanation: Company officials just wanted to be sure the citizens really wanted the plant located in their city.

• **Mushrooming Payrolls**—The real purpose of any foundation is to boost the payrolls in its community. The business thus created amounts to a lot more than just the actual size of the new payroll. Every new factory worker helps give employment to other workers—in retail stores, restaurants, and other service trades. These workers, in turn, spend a good part of their pay in the community.

Studies show that 10 manufacturing jobs will maintain about eight service jobs in a typical industrial city—and that manufacturing-payroll money will create business to the extent of  $2\frac{1}{2}$  to  $3\frac{1}{2}$  times the size of the payrolls themselves.

• **New and Old**—All 70 of the foundations analyzed in the Tulsa report stand ready to help new industries get started. In addition, 80% will assist established local industry to expand, and thus create new jobs.

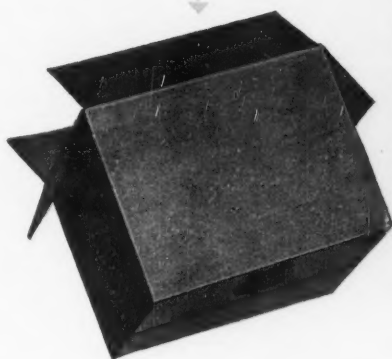
Among the foundations less than five years old, 84% have already located at least one new plant in their communities. All but one of the older groups have brought in at least one new plant.

• **Results**—The results in terms of new payrolls vary widely. The Greater Muskegon (Mich.) Industrial Foundation has added an estimated \$46-million in annual payrolls during its 28 years. The Marquand (Mo.) Development Corp. added one plant, with a payroll of \$150,000 a year, to that town of only 600 people. Scranton's foundation, in existence for only three years, has brought in seven new industries and helped four old ones. Total new annual payroll: \$6.9-million.

There are some that have not done well, of course. An example: The 20-

Experienced buyers  
look at the Pedigree

*buyers of boxes, too*



THE COCKER SPANIEL, American member of a family that traces back to the 14th century, is still a great favorite with sportsmen. Cockers are said to be so named because they were first used in hunting woodcocks. Affectionate and merry, they are perfect family pets.

FOR ASSURANCE OF *Quality*  
FOR ASSURANCE OF *Service*  
FOR ASSURANCE OF *Fair Price*

**M**OST corrugated containers *look* alike. But the difference shows up in performance.

The famous Union shield trade-mark is your assurance that every step in making the box, from

the forest to the finishing room, is handled by trained personnel in the largest Kraft pulp-to-container plant in the world.

It symbolizes seventy-five years of leadership in designing, engineering and producing paper packages... plus long experience as one of the nation's larger producers of Kraft container board.

You can rely on Union shield-marked boxes to give you quality and service at a fair price—not only this year but for years to come!

**UNION** *Corrugated Containers*  
**UNION BAG & Paper Corporation**

Principal Offices: WOOLWORTH BLDG., NEW YORK 7, N. Y.

Corrugated Container Plants: SAVANNAH, GA. • CHICAGO, ILL. • TRENTON, N. J.





# RUST

is a "Slow Fire"  
that is Costly to You

Day and night—twenty-four hours a day—RUST is a constant threat wherever metal is used, in industry, at home, or on the farm. Stacks, tanks, fences, metal roofs, gutters, machinery, equipment and hundreds of other metal items are marked for destruction by this deadly scourge. THE FASTER RUST DESTROYS, THAT MUCH SOONER WILL COSTLY REPLACEMENTS BE REQUIRED. Unless all rust-producing conditions are fully checked by adequate protection, much of your property will "burn away" slowly—just as surely as if consumed by fire.

## Stop Rust WITH RUST-OLEUM

It's a proved product (an exclusive formula) that gives long-lasting protection. Rust-Oleum defies rain, snow, dampness, fumes, ordinary weathering and other destructive elements. Originally developed to resist the severe rust-producing effect of salt water and salt air under tough sea-faring conditions, Rust-Oleum seals metal with a tough, pliable film that dries to a firm rust preventive and protective coating that GUARDS THE STRUCTURAL STRENGTH OF YOUR STEEL.

Applied to metal, even where rust has already started, Rust-Oleum saves it from further damage. It is easy to use. You don't have to remove all the rust. Simply wirebrush and scrape to remove loose rust and scale—then apply by brush, spray or dip. Decorative, too! Rust-Oleum is available in aluminum and all colors including white.

### DO YOU HAVE RUST PROBLEMS?

We'll gladly send specific recommendations for Rust-Oleum applications upon request. Write for complete information without cost or obligation, or see our catalog in SWEET'S, RUST-OLEUM CORPORATION, 2423 Oakton Street, Evanston, Illinois.

**RUST-OLEUM  
STOPS RUST!**

Rust-Oleum is sold by industrial distributors in most principal cities.



year-old foundation in Muskogee, Okla., has brought in just one new industry, boosted the city's annual payrolls by \$250,000.

• **Aid Varies**—It isn't always the smaller company that gets aid from a foundation. Among the well-known concerns that have been helped by foundations are Armstrong Cork Co., Dixie Cup Co., Glidden Co., Linde Air Products Co., Remington Rand, Inc., Electric Auto-Lite Co., International Shoe Co., Reynolds Metals Co., Container Corp.

The help offered by foundations is primarily of three types:

(1) Buying, developing, and selling industrial sites;

(2) Providing or building plants for lease or sale;

(3) Providing money for loans.

• **Land Problem**—The greatest obstacle many cities face in attracting new industry is availability of suitable land. Many a community has practically sold a company on its advantages, only to find that it could not locate an acceptable site at a reasonable price.

Many foundations have hurdled this obstacle by buying attractive industrial tracts in advance, and holding them for possible new companies. They are thus in a position to quote attractive prices immediately when a prospect is found.

• **Special Districts**—Several foundations have gone even further, setting up so-called industrial districts. These are tracts of good industrial land which have been developed to the point where paving, sewers, utilities, grading, trackage—and, in some cases, even multipurpose buildings—are already available. A new company has only to select its improved site in the district.

Of the industrial foundations surveyed, 80% buy and sell real estate. Five began with this purpose alone.

• **Buildings**—Some 83% of the foundations are willing to erect new buildings for lease to new industry. Only 64% will build for sale. Often, however, a lease will provide for amortization of building cost by the company, or for option to purchase.

A lease arrangement is valuable to both the foundation and the company. By renting instead of building or buying, the company need not sink a large sum into fixed assets. And it can charge off rental payments as operating expense. For the foundation, a lease provides it with return on its capital.

• **Loans**—One-third of the foundations surveyed are willing to lend money outright to manufacturers. Funds loaned to new industry are usually for the purpose of buying land or buildings. Loans to established companies are primarily used for buying new equipment, for refinancing, or to supplement working capital.

Several methods are used by the foundations to protect these loans. Most

## The 70 Foundations

The Tulsa Chamber of Commerce based its survey on 70 industrial foundations. Here are the cities in which they are located:

Alliance, Neb.	La Crosse, Wis.
Amarillo, Tex.	La Junta, Colo.
Ashtabula, Ohio	Louisville, Ky.
Austin, Tex.	Macon, Ga.
Batesville, Ark.	Marceline, Mo.
Bald Knob, Ark.	Marietta, Ga.
Binghamton, N. Y.	Marquand, Mo.
Bowling Green, Mo.	Marshall, Tex.
Brownwood, Tex.	McAlester, Okla.
Carrollton, Mo.	McMinnville, Tenn.
Charleston, S. C.	Muskegon, Mich.
Chickasha, Okla.	Muskogee, Okla.
Claremore, Okla.	Newport, Ark.
Conneaut, Ohio	Ogden, Utah
Covington, Tenn.	Oklahoma City, Okla.
Crocker, Mo.	Olympia, Wash.
Cuba, Mo.	Pawhuska, Okla.
Cushing, Okla.	Pine Bluff, Ark.
Danville, Ill.	Portsmouth, Va.
Dubuque, Iowa	Salisbury, Mo.
Dunlap, Tenn.	San Angelo, Tex.
Elmira, N. Y.	Scranton, Pa.
Fargo, N. D.	Shawnee, Okla.
Fayetteville, Ark.	Sherman, Tex.
Fond du Lac, Wis.	Sumerville, Tenn.
Fort Smith, Ark.	St. Cloud, Minn.
Gary, Ind.	St. Joseph, Mo.
Genoa, Ohio	Topeka, Kan.
Grand Rapids, Mich.	Tyler, Tex.
Greeneville, Tenn.	Walnut Ridge, Ark.
Hazleton, Pa.	Warrenton, Ga.
Holdenville, Okla.	Wausau, Wis.
Hominy, Okla.	Waycross, Ga.
Hopkinsville, Ky.	Wheeling, W. Va.
Houston, Mo.	Wichita Falls, Tex.

usual is a first mortgage on the land, buildings, or machinery. Several of the foundations insist on having a representative on the company's board of directors.

A few of the foundations are willing to buy stock instead of lending money. One advantage of this method: The value of the stock rises as the business prospers. Disadvantages: Funds are tied up longer than if the money had been loaned; if the company fails, creditors' claims are senior to those of the stockholders.

• **Subsidy**—Some of the foundations are willing to give subsidies of one sort or another to attract new industry. Types of subsidy offered in order of importance, are: free land; tax exemption; free use of buildings; and free utilities. Tax exemption usually refers only to local taxes, but at least two states—Arkansas and Louisiana—offer state property-tax exemption.

An example of how the subsidy sometimes works: Ansco Division of General Aniline & Film Corp. needed property on which to expand in Binghamton,

# Locating a Plant's a Puzzle...

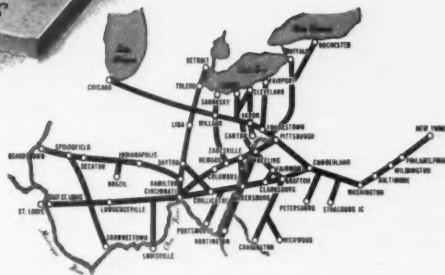


... but B & O's Industrial Development  
staff can solve it in confidence—  
without obligation!

Only a specially trained staff can thoroughly coordinate plant location factors; that's why business leaders consult us.

They're sold on B&O territory... for here is the lion's share of those factors needed to make any plant a success.

Tell us your requirements; we'll submit a custom-made study that will solve your plant location puzzle!



Ask our man!  
Industrial Development  
representatives are located at:

NEW YORK 4, N. Y.  
BALTIMORE 1, MD.  
PITTSBURGH 22, PA.  
CINCINNATI 2, OHIO  
CHICAGO 7, ILL.



## BALTIMORE & OHIO RAILROAD

Constantly doing things — better!



# MOSINEE

*"More than Paper"*



A manufacturer of electrical equipment standardizes on MOSINEE — "more than paper" — because of its *uniformity*. This enables him to obtain exactness of his finished product without having to adjust his processing to paper variations.

This manufacturer knows he can rely on the *dependable uniformity* of MOSINEE. Such dependability may help you solve *your* problem. Write Dept. BW and MOSINEE "paperologists" will be glad to confer with you without obligation.

**MOSINEE PAPER MILLS CO.**  
Mosinee, Wisconsin  
*Essential Paper Manufacturers*

N. Y. The company and the property-owner were unable to get together on the price. So the Binghamton foundation—New Industries for Binghamton—put up the difference.

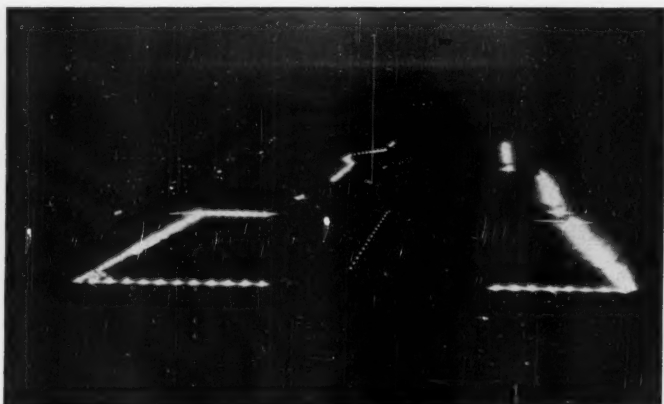
• **Capital**—Capitalization of foundations has no relation to the size of the cities in which they are located. Total paid-in capital of the 66 foundations that reported on this point is \$8,276,300. Amounts vary from \$1,004 (in Scranton, Pa., a city of almost 150,000 population) to \$1.2-million (in Wheeling, W. Va., with 65,000 population).

Capital is sometimes obtained by soliciting everyone in the community; sometimes by asking only a selected list

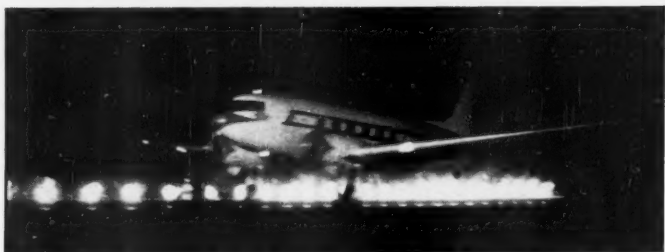
of businessmen (chamber of commerce members for instance).

• **Profits**—About three-quarters of the foundations surveyed are nonprofit corporations. Stockholders get their benefits only indirectly—through increased business due to new payrolls in the community. Any income realized is plowed back—which permits a wider scope for operations without the need for a new campaign for funds.

Members of 11 of the foundations expect dividends on their investments. Only three, however—all founded within the past three years—have declared dividends—Batesville, Ark.; Charleston, S. C.; and Genoa, Ohio.



## New Los Angeles FIDO Guides Planes to . . .



## . . . Safe Landings in the Fog

The first commercial FIDO (Fog Intensive, Dispersal Of) system in the U. S. went into operation last week at Los Angeles' Municipal Airport. The \$842,000 system is a much-refined version of the one the British used during the war to guide bombers into fog-shrouded fields. Built by Todd Shipyards Corp. and Bechtel Corp., it was financed by the federal airport program and the Los Angeles Dept. of Airports. The city's share of the cost, and operation and maintenance, will be paid for

by the five airlines that use the airport. The system burns diesel oil in 392 "triad" frames connected by pipe along the main runway. Electrical igniters touch off the fire in each triad. Technicians say a 400-ft. ceiling and a visibility of  $\frac{1}{4}$  mi. can be burned into fog in 2 min. Cost of the treatment (for a 50-passenger plane): about \$1.50 a passenger. That compares with \$8 to \$10 a passenger when fog forces a plane to go on to an alternate field like Palmdale, 100 mi. to the northeast.



VESSEL DIVISION

# NEWS



**A. O. SMITH**  
Corporation

New York 17 • Philadelphia 5 • Pittsburgh 19 • Atlanta 3 • Chicago 4  
Tulsa 3 • Houston 2 • Seattle 1 • Los Angeles 14  
International Division: Milwaukee 1



➔ **MANY TESTS BEYOND CODE REQUIREMENTS** are a regular part of A. O. Smith vessel production control procedures. Here Bill Poehlman, a 20-year veteran, in charge of spectroscopy and X-Ray research, checks the deposited weld metal composition in a vessel test plate, by means of an A. O. Smith-developed microspectrographic technique.



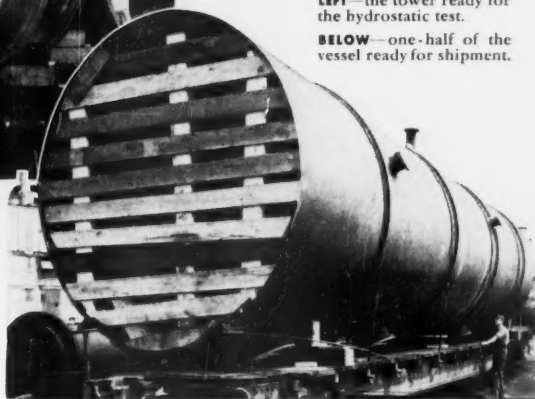
**NEW BULLETINS:** Write the nearest A. O. Smith office listed above for these new Bulletins: V-44—Field Assembly of Pressure Vessels; V-46—SMITHway Vessels, Alloy, Alloy-Lined, Clad, and Glass-Lined.



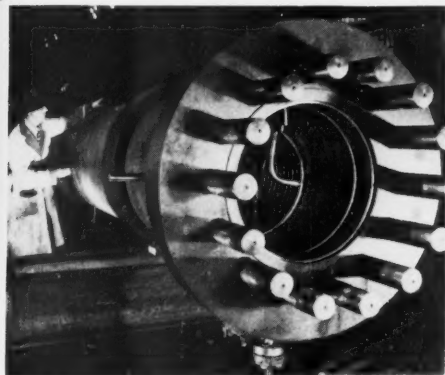
**A. O. SMITH TAKES THE GUESS WORK OUT OF FIELD ASSEMBLY.** Railroad shipping restrictions made it necessary to field-assemble this 11½ ft. dia. x 116 ft. long SMITHlined Fractionating Tower. To insure ease of assembly in the field, it was first manufactured and completely assembled in the A. O. Smith Milwaukee Plant, then hydrostatically tested, cut in two at the center girth seam, rescarfed for welding in the field, and shipped. Field-assembly costs were cut to a minimum with only one girth seam to be welded.

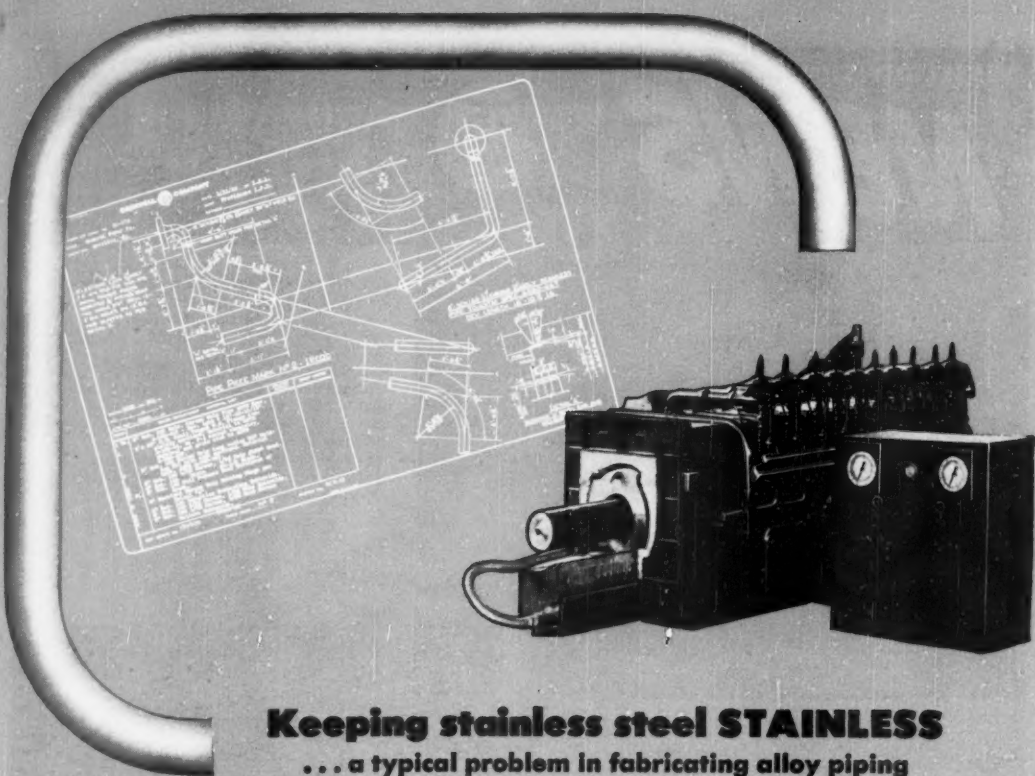
**LEFT**—the tower ready for the hydrostatic test.

**BELOW**—one-half of the vessel ready for shipment.



➔ **IN STOCKHOLM, SWEDEN,** they know about the famous SMITHway welded Multi-Layer vessel construction. Here is one of two SMITHway Inconel-lined Multi-Layer Autoclaves for fatty acid service, with a shell thickness of 5 inches and an operating pressure of over 5,000 psi. This vessel was shipped direct by ocean-going ship from Milwaukee to Stockholm.





## Keeping stainless steel **STAINLESS** ... a typical problem in fabricating alloy piping

Heat a piece of stainless steel pipe to bend it and right away you're up to your ears in metallurgical complications. To begin with, stainless steel isn't just one alloy. There are hundreds of different types of stainless steel, each selected for its resistance to corrosion or its stability at high temperatures. To maintain the metallurgical properties which dictate the choice of a particular alloy steel, you have to know the temperature range within which this steel may suffer excessive metallurgical changes. And you have to have specialized equipment to maintain the precise control necessary to avoid these hazards.

Grinnell pipe fabrication equipment includes specially designed gas-fired radiant heat furnaces for this precisely controlled heat treatment of stainless steels and other alloy steels. Multiple burners are strategically located to distribute temperature uniformly and to prevent harmful flame impingement. Precision instruments regulate temperature and time.

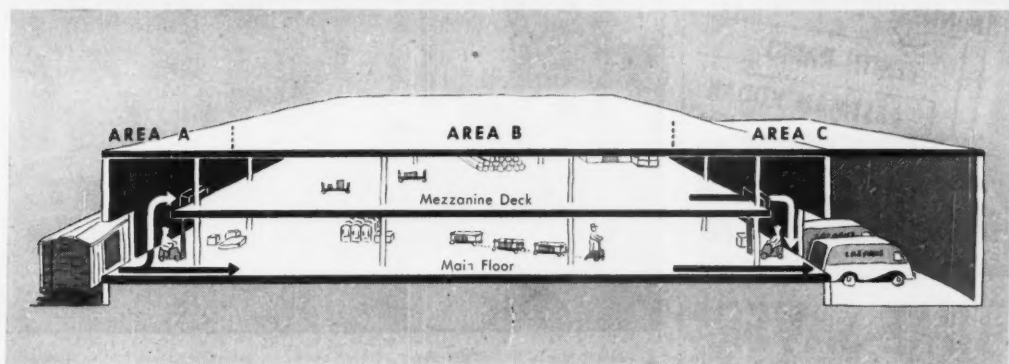
It's an intricate business . . . fabricating alloy steel piping. It's a job for Grinnell prefabricating plants because Grinnell has the equipment and modern methods, the interpretive engineering, the metallurgical research facilities and the skilled personnel.



# GRINNELL

Grinnell Company, Inc., Providence 1, Rhode Island. Branches: Atlanta • Buffalo • Charlotte • Chicago • Cleveland • Cranston • Fresno • Kansas City • Houston • Long Beach • Los Angeles • Milwaukee • Minneapolis • New York • Oakland • Philadelphia • Sacramento • St. Louis • St. Paul • San Francisco • Seattle • Spokane

# MARKETING



**1** Minimum movement and maximum flexibility are what F. & R. Lazarus Co. aimed at in its new bulk service building in Columbus, Ohio. Incoming goods are readied for delivery in Area A, stored in Area B. In Area C, they're loaded on delivery trucks

## How Lazarus Cuts Handling Costs



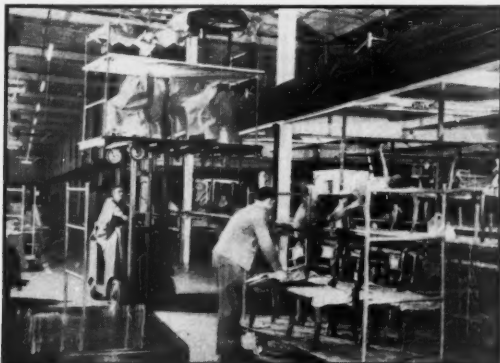
**2** Trucks and railroad cars unload through 13 receiving doors on one side of the building. Cargo moves immediately to . . .



**3** Area A, where inspection and processing start. These chairs were faulty, were shunted into "hold" area for disposition



**4** Workers uncrate goods and prepare them for delivery to customers in Area A before the merchandise goes into storage

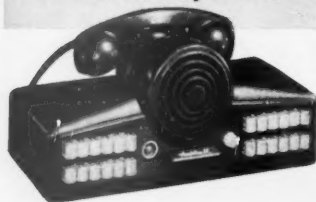


**5** Lighter goods are hoisted on "floats" to the mezzanine deck. Lift trucks, not elevators, are used (TURN TO PAGE 40)

**B. F. GOODRICH**  
**MINNEAPOLIS-HONEYWELL**  
**ZENITH RADIO**  
**EASTMAN KODAK**

**ELECTRONIC**  
**AMPLICALL**  
**Intercommunication**

**TIME-SAVER**  
**for Business, U.S.A.**



The list of AMPLICALL users reads like a "Who's Who" of American business. Big and small, each enjoys the time-saving advantages of this modern electronic communication system. The touch of a button provides instant speaking contact within and between all departments. Frees busy switchboards for outside traffic. Puts an end to wasteful walking, waiting, memo-writing and costly slowdowns. In plant and office, AMPLICALL pays for itself many times over by converting wasted time into working time. Get the full details on AMPLICALL today!

**n Systems (cont'd)**  
**UNICATION SYSTEMS**  
**AMPLICALL**  
 nomic  
 nica-  
 tory-  
 stem,  
 institutions, general business,  
 installations in daily use. Engi-  
 requirements. Expert survey and  
**ERE TO BUY IT"**

**See Your Phone Book**

For your nearest AMPLI-  
 CALL specialist, look in  
 the "Intercommunication"  
 section of your classified  
 directory, or write direct  
 to Rauland-Borg Corpo-  
 ration, Chicago, Illinois.

**Rauland**

**RAULAND-BORG CORPORATION**  
 3523-B Addison St., Chicago 18, Illinois

☐ Send complete details on the New  
 AMPLICALL.

☐ Send your representative. No obligation.

Name .....

Company .....

Address .....

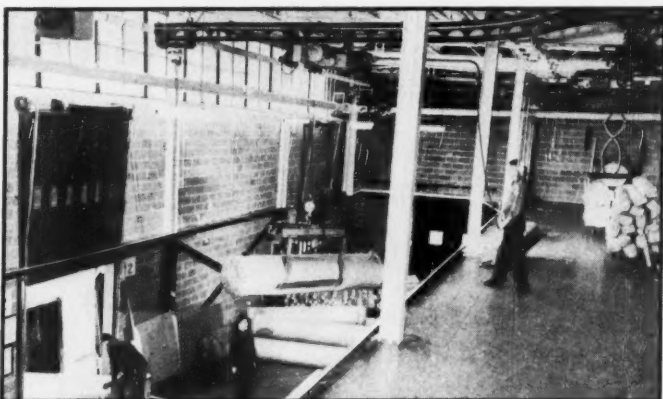
City .....

State .....

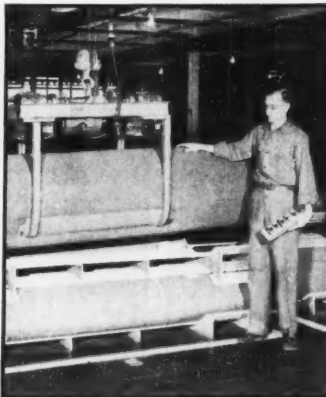
**LAZARUS (continued from page 39)**



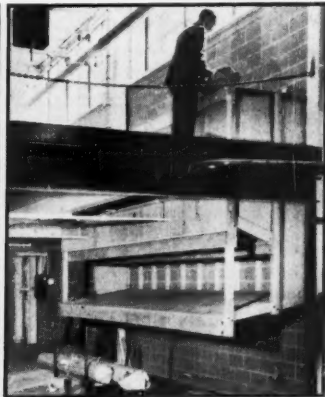
**6** Heavy goods, like refrigerators, washing machines, and stoves, ride to the appropriate storage area on individual dollys. Already processed, the equipment is set for immediate delivery to customers along any of Lazarus' numerous truck routes



**7** Rugs and carpets get special handling. An overhead hoist lifts them from the main floor, carries them on a monorail trolley into Area B, where they're held in the . . .



**8** Carpet storage area. When a customer buys carpeting, it's cut to size, wrapped with its floor pad, and sent down a . . .



**9** Chute to Area C. Merchandise is sorted according to the delivery route nearest the customer (TURN TO PAGE 42)



# The Economic Stability Bill of 1949

## *Anti-Inflation or Anti-Free Enterprise?*

When the President first placed his anti-inflationary proposals before Congress more than a year ago, there was serious concern in many quarters lest the emergency program become the entering wedge in a campaign to subject the economic life of the United States to a set of governmental controls and restrictions such as the nation had never thought of tolerating in time of peace. The nature of the legislation that has been proposed to the new Congress, and the circumstances under which it has been offered, have certainly not been such as to allay that concern. The President's principal non-monetary recommendations are embodied in a bill entitled the "Economic Stability Act of 1949." Enactment of this bill would confer upon the Federal Administration powers comparable with those exercised during the war and would be one of the longest strides away from free enterprise ever taken in this country.

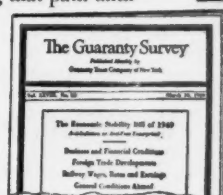
Not the least ominous thing about the bill is the fact that it has been strongly urged by Government officials at a time when inflationary tendencies are visibly waning. The price level has been falling for about six months, and the general average is lower than it was a year ago. Industry after industry reports a transition toward a "buyer's market", and many minor curtailments of output and layoffs of workers have occurred.

It is against this background that the proposed legislation must be judged. If the sweeping extension of Federal power is requested as a drastic but unfortunately necessary emergency measure, it seems clear that there is no present emergency to justify such a step. If the plan has a deeper and more lasting significance—if it is intended as an implementation of an "established national policy" and the expression of a political philosophy that would make government responsible for the volume and direction of the people's industrial activity—then it is an insidious and dangerous threat to the economic life of the nation.

If the supposedly temporary character of the bill and the statements of some of its supporters that it is intended as nothing more than an emergency anti-inflationary device could be taken at their face value, the plan might be criticized as unnecessary and useless, but it would present no grave menace to the American economy. For several reasons, it would be dangerous to place too much reliance on such assurances. First, experience has shown that bureaucratic agencies and devices tend to perpetuate themselves. Second, it appears that many influential Government officials have a deep distrust of the self-impelling and self-regulating capacity, as well as the social adequacy, of our free-enterprise system. Finally, the operation of the proposed controls would tend strongly to prevent necessary readjustments and thus prolong the apparent need for the controls.

The proposed program is socialistic, not because it is intended to be so but because it is based on a misconception of the nature and requirements of a free-enterprise system. It is socialistic because it would cripple both the motive power and the self-regulating character of the system. First by weakening economic incentives, then by preventing normal price adjustments, and finally by empowering the Government to step in and fill the gaps that private enterprise had been prevented from filling, the program would lay a straight path from economic freedom to economic regimentation. If the American people, through their elected representatives, were deliberately choosing that path, they would of course be quite within their rights. The danger is that they will allow economic errors and fallacies to lead them blindly along that path until it is too late to turn back.

—From an article in the current issue of THE GUARANTY SURVEY, monthly review of business and economic conditions published by Guaranty Trust Company of New York, available to executives on request.



## Guaranty Trust Company of New York

*Capital Funds, \$366,000,000*

140 Broadway  
New York 15

Fifth Ave. at 44th St.  
New York 18

Madison Ave. at 60th St.  
New York 21

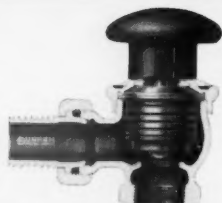
Rockefeller Plaza at 50th St.  
New York 20

London Paris  
Brussels





## From **CABINET CONVECTORS**



## To **PACKLESS VALVES**

Dunham heating products meet the most exacting requirements of architects, engineers, contractors and building owners. Their rugged construction and dependable performance assure all around satisfaction wherever they're used, in industry or home.

Typical of the efficient operation of these products is the Dunham radiator valve that recently had to have its expansion member replaced—but only after more than 20 years of trouble-free service!

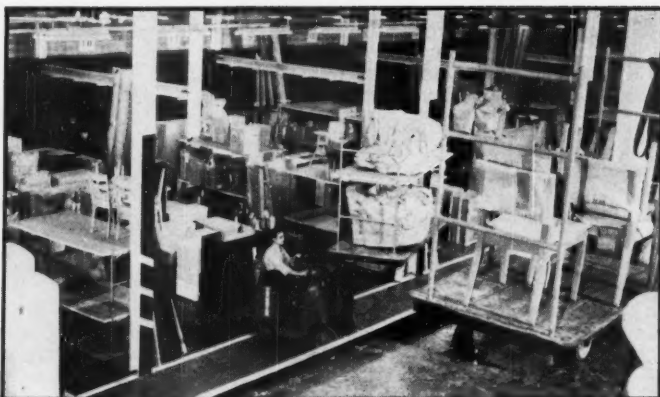
You'll find this same high quality in every steam specialty, unit heater, pump or convector that bears the Dunham name—for back of this equipment is nearly half a century of leadership in the heating field. For complete information, write for bulletin 634C today. C. A. Dunham Co., 400 West Madison Street, Chicago 6, Illinois.

**DUNHAM**  
**HEATING PRODUCTS**  
*meet the needs*  
**of ANY JOB**



HEATING MEANS BETTER HEATING

## LAZARUS (continued from page 40)



- 10** Other goods arrive at the loading area from the mezzanine by means of fork lifts. A Lazarus employee called a "customer's representative" inspects all outgoing shipments



- 11** Lazarus' truck fleet loads at 22 delivery docks. The number of each dock corresponds to one of the trading-area truck routes through the city and suburbs of greater Columbus

## Faster Hard-Goods Handling

F. & R. Lazarus Co.'s \$1.5-million bulk service building in Columbus uses new techniques to cut handling, lower damage on department-store wares. It may be model for others.

Every time you move a piece of merchandise, there's a chance it may be scratched, broken, or soiled. Even if you don't damage it, every move costs money; someone has to do the moving.

That's why F. & R. Lazarus Co., big Columbus (Ohio) department store, spent about \$1.5-million to build a new bulk service building. The new building, a mile from the main store, handles storage and service of items ranging from tricycles to television sets.

• **Tested**—The company has already tested its building for several months.

Here's what store president Robert Lazarus says on the basis of this experience: "We know this way of handling bulk merchandise is vastly simpler, speedier, and more economical."

Next week Lazarus will open the building officially. Most of the store's suppliers will be on hand to see what happens to the goods they make, once they arrive in Columbus.

• **Why They Built It**—Lazarus—and its parent chain, Federated Department Stores, Inc.—decided to develop the

"DOC" WEBB'S

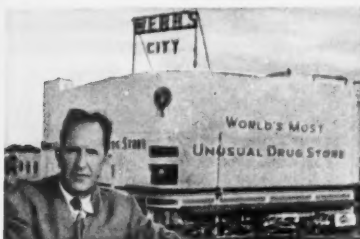
# Smart idea!

He uses girls, circuses, spectacular promotions, bargains, to gross \$15,000,000 in a drugstore!



BEAUTIFUL GIRLS like Miss Janet Crockett, one of "Doc" Webb's nationally publicized "Florida Poster Girls," help stimulate drugstore sales volume.

"THE WORLD'S MOST UNUSUAL DRUGSTORE" sprawls over three city blocks in St. Petersburg, Florida. Guiding genius is Ford Truck user, J. E. "Doc" Webb. He built a hole-in-the-wall pharmacy into a \$15,000,000 corporation in 23 years. Uninhibited promotion stunts have brought country-wide fame. Milking rattlesnakes . . . treasure-hunt sales with ladies' panties selling at the cigar counter and bed sheets at the soda fountain . . . one-dollar bills going for 95¢, subsequently re-purchased at \$1.35, are typical Webb promotions. Circuses and vaudeville are standard fare. This exploitation is backed by a smooth-working selling operation and a fleet of trucks, five of which are Fords.

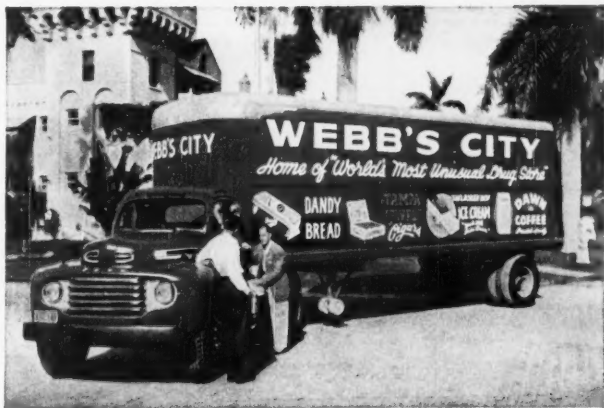


"DOC" WEBB POSES in front of what was only a cut-rate pharmacy 23 years ago. Here "Doc" pulls such attention-getting sales-stimulating gags as displaying a scarf of Lincoln, worn when he was shot in Ford's Theater.

"DOC" WEBB'S

# Smart move!

He uses five Ford Bonus Built Trucks to do hauling in his business. Smart Move! Smart Business!



"I LIKE FOR MY TRUCKS and my promotion stunts to be slightly on the colossal side," "Doc" Webb tells Ford Dealer, Bill Grant, Jr., "that's why I got myself a new 145-horsepower Big Job." Replies Dealer Grant, "That was a smart move, 'Doc'! And you can bet that your new Ford Big Job will stand up and deliver. It's Bonus Built . . . built stronger to last longer, same as the 139-plus other models in the Ford Truck line."



"THE 145-HORSEPOWER V-8 ENGINE is a powerhouse on wheels," Dealer Bill Grant, Jr., tells "Doc" Webb. "It's got lots of important features like concentric dual-throat carburetor, hard, alloy-faced exhaust valves, etc."



"YOU SAVE 20% of your engine revolutions in overdrive with this 5-speed transmission. Fewer revolutions improve gasoline economy, prolong engine life. This transmission is standard in the Ford F-7 Big Job; it costs you nothing extra."

"DOC" WEBB'S

# Smart bet!

FORD TRUCKS LAST LONGER!

Using registration data on 5,444,000 trucks, life insurance experts prove Ford Trucks last longer!



## ELIMINATES COSTLY CORROSION PROBLEM

### Textile Manufacturer Changes to a "Job Proved" Sun Processing Oil and Cuts Production Costs

A manufacturer of cotton fabrics was having corrosion trouble on his textile machines. It resulted from the use of an expensive processing oil. Moreover, the oil had to be sprayed on the fibres by special rented equipment.

Changing to a "Job Proved" Sun processing oil, the manufacturer not only licked the corrosion problem, but was able to replace the rented

equipment with low-cost, standard atomizing machines. In addition, there was a saving of \$2,000 in two years on the cost of oil.

This is typical of the service rendered and the savings made possible in many different kinds of industrial plants where Sun petroleum products are used. In one year, an automobile manufacturer saved \$1,440 by adopting Sun Tableway Lubri-

cant on the slides of machine tools... a paper mill adopted an adhesive Sun grease that didn't drip, estimated a \$2,900 saving in labor and cleaning costs... a coal mine saved \$1,664 by changing to a Sun waterproof grease for mechanical loaders.

To get the latest information about Sun "Job Proved" products for your industry, call the nearest Sun Office, or write Department BW-4

**SUN OIL COMPANY • Philadelphia 3, Pa.**

*In Canada: Sun Oil Company, Ltd.  
Toronto and Montreal*

**SUN PETROLEUM PRODUCTS**

"JOB PROVED" IN INDUSTRY



new building after some elaborate handling-cost studies. Store officials found, for example, that 90% of the merchandise used in window and floor displays had to be reprocessed or touched up before it could be delivered.

And with four relatively small warehouses in separate locations, the company found it plenty tough, to keep track of all its stored merchandise.

To devise a building that would cut handling costs to a minimum, Lazarus went to Cleveland's Austin Co. Most of Austin's experience had been in the field of industrial engineering and building. But Lazarus figured—and Austin agreed—that some industrial-handling techniques might be the answer to the problem of handling consumer goods.

• **What They Built**—The result of their joint thinking is a long, low building which has 265,000 sq. ft. of storage space. Of this, 165,000 sq. ft. are on the main floor, 100,000 sq. ft. on a mezzanine deck. All goods move across the width, rather than the length, of the building in going from incoming trucks to the store's own delivery system; no merchandise moves more than 242 ft.

The new building has two features that Stanley H. Cowell, Austin's construction supervisor, believes give it maximum flexibility:

- (1) It has no conventional elevators;
- (2) It is designed without interior partitions.

Lazarus uses fork-lift trucks which actually take the "elevator" to the merchandise, instead of vice versa.

The absence of interior partitions means storage areas can be adjusted in size to meet seasonal conditions.

• **Merchandise Flow**—All merchandise from freight cars or motor trucks moves onto one of 13 docks. In many stores, reserve stocks of bulk merchandise go directly into storage, still in crates or cartons. In Lazarus' new building the merchandise is immediately uncrated, inspected, and readied for delivery to the customer. Then it's moved into storage.

This way, says vice-president Charles Y. Lazarus, the customer can get immediate delivery on her purchase. Pre-processing also lets management know at once if any of the merchandise is faulty. If it is, the store can catch it before it moves into storage, hold it for repairs, or for return to the manufacturer.

• **Traveling Repair Shop**—Another example of the lengths to which Lazarus goes to cut down the movement of goods: Several departments use "touch-up" carts, which bring the repair shop to the merchandise, rather than the reverse.

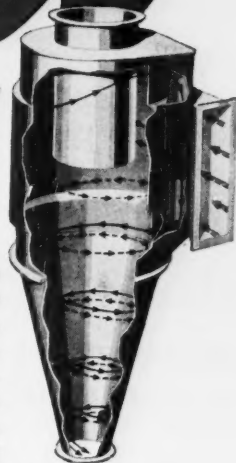
Heavy goods—stoves and refrigerators—are put on special dollies as soon as they're unpacked. Then, after inspection,

Simplicity...

an absolute must in

# dust

## RECOVERY



**Complex design** with many small parts multiplies the chance of trouble in any dust recovery system. The ideal equipment has no moving parts to maintain, no small passages to clog up and cause expensive shut-downs. Buell sticks to the large high-efficiency cyclone design—proportioned to each individual job. It is based upon sound aerodynamic principles which result in high operating efficiency with a minimum of turbulence and wear. An added refinement is the exclusive van Tongeren 'Shave-Off'—without which no truly efficient cyclone performance can be expected.

It takes a multi-page catalog to discuss the problems of collector efficiency in dust recovery. Buell publishes such a book, which is yours for the asking. Write: Buell Engineering, 60 Wall Tower, New York 5, N. Y.

# buell

Engineered Efficiency in

## DUST RECOVERY

# labor SERVING NORTHERN ELECTRIC HI-LIFT HOISTS



## MECHANIZE FOR ... ... HEAT TREATING

Heating, soaking and cooling cycles also require dependable material handling—labor SERVING, and on time. For most dependable production and labor efficiency mechanize your heat treat handling with NORTHERN ELECTRIC HI-LIFT HOISTS.

AT YOUR REQUEST  
LET US SEND CATALOG  
on Northern Overhead Cranes—Hi-  
on Northern Electric Hoists—Travelers—and  
other Northern material handling  
equipment.

NORTHERN  
ENGINEERING WORKS  
2615 ATWATER ST.  
DETROIT 7, MICHIGAN

tion, they're towed to the storage area. Lighter goods are put on four-wheeled "floats." They are either towed to storage on the main floor or hoisted—by fork-lift—to the mezzanine deck.

Rugs and carpeting are the only mezzanine-deck items that don't ride on fork-lifts. A special overhead hoist, which moves on a monorail trolley, lifts them.

• **Some Stays Crated**—Actually, not all merchandise is uncrated before it's stored. Here is the sort of thing usually left in the carton: seasonal items (bicycles, for example), and merchandise that takes up much more space when assembled than when crated (porch gliders). Only about 10% of these items are uncrated, although more may be readied during the peak sales season. The rest of the merchandise is inspected for carton damage and stowed on shelves.

These shelves, incidentally, are another example of the building's flexibility: They can be adjusted to any height; they can be removed to store a different type of merchandise.

• **Deliveries**—Lazarus' customers make their selections from floor samples in the main store. Deliveries are made from the bulk service building.

The goods move to the customer in much the same way that merchandise comes into the building—except that there isn't any processing. Fork-lifts bring merchandise-laden floats down from the mezzanine deck; small gasoline tractors pull the main-floor goods to the delivery area. Rugs drop down a special chute.

Each of the store's 22 truck routes through Greater Columbus starts from a numbered door in the delivery area. Merchandise from storage is sorted according to its routing. In the late afternoon, the trucks come in from delivering, pick up their loads for the next day.

• **How Big a Saving**—The store won't really know how much the building saves in handling costs until it has been in operation for some time. Right now, executives figure the system cuts the cost of moving a 300-ft. roll of broadloom carpeting, from point of receipt to storage, from \$8.12 to 96¢. For an average electric range, the old figure was 96¢; now it's 32¢. These figures, of course, are still highly theoretical; the Lazarus people point out that they don't include the cost of the building.

Lazarus expects the building to pay off in other ways, too. By improving customer service, for example, you cut down the number of complaints. This doesn't show up on the building's operating-cost statement, but it means dollars and cents to the company.

• **Second Experiment**—Actually, the new Lazarus building is Federated Department Stores' second experiment in

streamlining store methods. In the first project—Foley's department store in Houston, Tex.—it tackled the problem of store interiors (BW—Oct. 18 '47, p. 50). Foley's has become Federated's testing ground for modern store techniques. Many of the methods developed there have already been adopted by other Federated stores.

The new bulk service building is Federated's big experiment in warehousing. As the parent-company president, Fred Lazarus, Jr., puts it: "In the past, we have tried to handle bulk merchandise in buildings not specifically designed for it. Besides the time-consuming inconvenience of this moving around, we've damaged merchandise—lots of it—because most of it isn't designed for a life of travel."

• **Model Setup**—If this new experiment proves successful, the building will probably become the model for many other Federated stores, as well as for competitors.

But, though the building may solve the Lazarus Co.'s storage and service problems, it won't necessarily be the answer for every store. In New York City, for example, the building probably wouldn't be practical; it would cover too much expensive ground. In cities where land is cheaper, however, it may show department-store operators how to get goods to the consumer with a minimum of handling, damage, and expense.



## Ice Cubes to Suit

Columbus Molded Plastic Corp., Columbus, Ohio, is making a bid for the home-entertainment market with this novel plastic ice-cube tray. The molds have been shaped into card-suit symbols—hearts, diamonds, clubs, and spades. The company expects the tray to rate aces-high with Mrs. Consumer as a suitable way of providing a novel twist to an evening's diversion.



Who said it costs more to use Stainless Steel?

FAMOUS DRAVO Counterflo HEATER

USES STAINLESS TO REDUCE COSTS!



Completely self-contained, automatic in operation, this direct-fired heater provides an entirely new solution to the troublesome problem of plant heating. A "single-package" heating unit that can be positioned anywhere, it supplies heat directly to the area needing it, efficiently and economically. Incidentally, it also proves that using Stainless Steel does not necessarily increase cost, but on the contrary can decrease it.

THE heart of any heater is the combustion chamber. In the original Dravo Heater sold by the thousands to army camps and plants during the war, this chamber was made of corrugated carbon steel lined with refractory cement. Numerous fins and deflectors were welded to its outer surface.

To meet the tremendous civilian demand created by its highly successful war-time service, Dravo engineers recently redesigned the heater to increase its efficiency, to reduce its size and weight, to increase its life span, to make its operation safer. And in order to maintain prices in the face of rising labor and material costs, they took steps to speed up its production and to reduce manufacturing costs. They accomplished these

things mainly by building the combustion chamber of Stainless Steel.

By specifying Stainless Steel that withstands temperatures up to 1600°F. they got rid of the troublesome and maintenance-demanding refractory lining. The unlined chamber, with its entire surface now exposed to the flame and gases, greatly increased heat transfer. This made it possible to eliminate fins and deflectors, allowed them to build the chamber smaller (to reduce its heating surface 53% without reducing operational performance) . . . and to reduce its weight 1500 pounds.

In addition, the simplified chamber design obtained by the use of Stainless Steel reduced the number of fabricating operations from 95 to 67. And, even though

welding with Stainless requires more care, welding costs too were reduced because only 186 lineal feet of welding were required instead of 400 feet.

● To indicate how U-S-S Stainless Steel might benefit you in similar constructions, we recapitulate the benefits Dravo has obtained by using Stainless:—It has enabled them to employ less expensive manufacturing procedures than those used previously. It has insured greater portability for their equipment. It has improved heat transfer and eliminated expensive refractory maintenance. Dravo is now sold on the use of Stainless Steel because, as their engineers report, it has given them tremendous advantages over competition, one of the most important being *lower cost of manufacture.*

AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES: CLEVELAND, OHIO  
CARNegie-ILLINOIS STEEL CORPORATION, PITTSBURGH & CHICAGO  
COLUMBIA STEEL COMPANY, SAN FRANCISCO • NATIONAL TUBE COMPANY, PITTSBURGH  
TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM  
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST  
UNITED STATES STEEL EXPORT COMPANY, NEW YORK



**U-S-S STAINLESS STEEL**

SHEETS • STRIP • PLATES • BARS • BILLETS  
PIPE • TUBES • WIRE • SPECIAL SECTIONS

**UNITED STATES STEEL**

United States Steel Corporation Subsidiaries  
Room 2061 Carnegie Bldg., Pittsburgh 30, Pa.

☐ Please send me the new book, "An Introduction to U-S-S Stainless Steel."  
☐ Please have a Stainless representative call on me.

Name.....

Position.....

Company.....

Address.....

City..... Zone..... State.....



**PAPER can . . .**

- IMPROVE PRODUCTS
- INCREASE PRODUCTION
- REPLACE MORE EXPENSIVE MATERIALS
- REDUCE COSTS

Let our paper engineers analyze your problem . . . if a specialized paper is the solution, Central can design and build it.

50 YEARS OF LEADERSHIP

1899 1949

REG. U.S. PAT. OFF.

**CENTRAL PAPER COMPANY INC.**  
2462 Lakeshore Drive • Muskegon, Michigan  
BRANCHES IN LEADING CITIES



REFRIGERATORS since 1940 have become a major Philco product, while . . .



TELEVISION sets and tubes surpass radio sets in dollar volume. These two . . .

**PERSONAL**  
to the  
1019  
WICHITA

TRAVELERS  
Who visit  
us  
regularly!



We appreciate your visits . . . and we would like to show you . . . and your friends . . . that our newly-decorated rooms, delicious food and superior service are even better now! Coming back soon?

**Skirvin HOTEL**  
Dan W. James, Pres.

**OKLAHOMA CITY, OKLA.**  
Hospitality Heart of the State.  
600 rooms from \$3.50!

## New Lines Pace Philco Growth

Thanks mainly to its refrigerator division, Philco had its biggest year ever in 1948. That shows where you can get with a trade name, a big sales machine, and shrewd diversification.

Philco Corp.'s 1948 sales record proved a knockout, even for Philco. Total sales, the Philadelphia company reported last week, came to a whopping \$275.4-million. That is a \$48.9-million increase over 1947, and the best sales volume in the company's history.

Significantly, the greater part of the increase—about \$36-million—was due to sales of refrigerators and air-conditioning units.

• **Radio Sales Off**—Philco is, of course, the nation's No. 1 manufacturer of

radio receivers. But their importance in the Philco scheme of things is on the wane. In the last quarter of 1948, the dollar volume of television-set production began to overtake that of radio sets.

The division producing TV, radio, and combination sets last year contributed 46% of the company's sales volume. This was a notable decline in percentage from 1947, when the division accounted for 54% of Philco's sales. The division's sales in 1948 came to



## THIS IS THE LIFE

The useful life of your machine depends largely upon its bearings. That emphasizes the importance of selecting New Departure.



## NEW DEPARTURE BALL BEARINGS

*Nothing Rolls Like a Ball*

NEW DEPARTURE Division of GENERAL MOTORS - BRISTOL, CONNECTICUT



## "Here's where your office noise stops"

This new ceiling will end your noise problem. When noise strikes the perforated surface of Armstrong's Cushiontone® as much as three-fourths of it is immediately absorbed. In an atmosphere of quiet, employees feel better, are better able to concentrate. Naturally, they're going to be more efficient.

Armstrong's Cushiontone is a fiberboard acoustical material with 484 cleanly drilled holes in each 12" square. Its entire surface—including bevels—is factory painted white. It reflects light well without glare, cleans

easily, and can be repainted whenever necessary without loss of acoustical efficiency.

Cushiontone goes up over new or old ceilings, with little interruption of your routine. And its cost is surprisingly low. Ask your Armstrong acoustical contractor for a free estimate. (A)

### WRITE FOR FREE BOOKLET

Entitled "What to do about Office Noise," it gives complete details about Cushiontone. Write to Armstrong Cork Company, 4904 Walnut St., Lancaster, Pa.



## ARMSTRONG'S CUSHIONTONE

\$127.3-million, only about \$5-million more than in 1947.

Other Philco lines—vacuum tubes, dry batteries, accessories, government business—showed increases, though not so great as the refrigerator division.

• **Trailing the Leaders**—Philco got into refrigerator production a bare eight years ago, which means that it has been hampered since then by a wartime shut-down. Despite that, its refrigerator division has turned in a remarkable sales record. Sales zoomed from 25% (\$25.1-million) of the Philco total in 1946, to 40% (\$110-million) last year. The 1948 increase in refrigerator sales came to 62%, in air-conditioning sales to 159%. Only freezer sales dropped, because of steel shortages.

In these few years Philco, starting from scratch, has pushed refrigerator sales to a point where they are on Frigidaire's and General Motors' heels. And it has likewise become a leader in the production of single-room air-conditioning equipment and home freezers.

Philco's history is one of well-timed diversification. This helps to explain why the company's main emphasis has shifted in 20 years' time from radio batteries to radios, then to refrigerators and television sets.

• **Other Factors**—There are other important factors as well in Philco's outstanding 1948 performance.

Price cuts are one of them. Philco timed them well, sliced both refrigerator and radio-set prices early last year (BW—Feb. 7'48, p10). This was strictly in accord with well-established Philco policy, founded when it was a newcomer to radio-set production 20 years ago; Philco's price cuts then rocked the industry time and again.

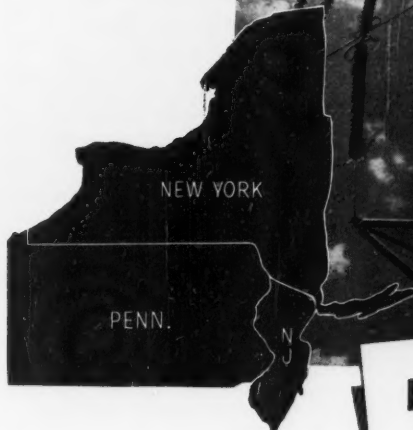
Philco is the first to say that advertising was another big factor. Philco's new lines have inherited two decades worth of advertising to establish the Philco trade name. That cost Philco \$75-million all told. And last year it continued to splurge on newspaper advertising, backing this up with advertising in other media. That includes such radio shows as Bing Crosby, and the Philco Television Playhouse.

• **Dealers and Distributors**—Philco's highly developed dealer-distributor network was another important factor in last year's success. The company has built this up over the years until it now comprises more than 130 wholesalers and 16,000 dealers. Philco is an old hand at keeping its distributors and dealers happy—particularly when sales need a shot in the arm. On May 27 you will see a typical Philco operation: The Queen of Bermuda will sail for a chartered cruise to Havana, carrying top-selling Philco dealers from New York and Philadelphia as a reward for licking their sales quotas.

Once in a while Philco is just a little

## New Power for America

One of a series highlighting the  
vast expansion program of the  
electric utility industry



## Mid-Atlantic States Spend One Billion for New Power

Post War Installations of  
**C-E STEAM GENERATING UNITS**  
completed or now in process for  
Mid-Atlantic Utilities

- CONSOLIDATED EDISON CO. OF NEW YORK**  
Waterside Station  
Sherman Creek Station  
Hunts Point Station
- BUFFALO NIAGARA ELECTRIC CORP.**  
Dunkirk Station
- LONG ISLAND LIGHTING COMPANY**  
Port Jefferson Station  
Glenwood Station
- NEW YORK STATE ELEC. & GAS CORP.**  
Jennison Station  
Hickling Station  
Goudy Station
- ROCHESTER GAS & ELECTRIC COMPANY**  
Station No. 3  
Russell Station  
Lincoln Park Station
- PUBLIC SERVICE ELEC. & GAS CO. OF N. J.**  
Sewaren Station
- NEW JERSEY POWER & LIGHT CO.**  
Gilbert Station
- METROPOLITAN EDISON CO.**  
Titus Station
- PENNSYLVANIA POWER & LIGHT CO.**  
Walnut St. Station
- PHILADELPHIA ELECTRIC CO.**  
Richmond Station

When you flick a switch and the instant response of electric power lights your home or starts your plant humming, it is hard to realize that this giant servant of your needs could have failed you in a serious way. In fact, had it not been for the foresight and prompt action of the privately-owned electric utilities, postwar America would long since have learned what a real power shortage could do to disrupt all phases of civic and business life.

Fortunately, a forward-looking program of expansion, years in the making, has stemmed the serious threat of power shortage that grew from unprecedented postwar needs.

The Mid-Atlantic States — New York, New Jersey and Pennsylvania — are an apt illustration. Here, in a vast pro-

gram that will substantially exceed one billion dollars by the end of this year, electric utilities are meeting new demands with new generating, transmission and distributing facilities now in operation, under construction or on order — a practical demonstration of public service.

Combustion's long association with the utility industry — not only in furnishing steam generating equipment but in pioneering technological improvements — finds important expression in this huge Mid-Atlantic program. The extent of this participation is shown by the fact that C-E Steam Generating Units — installed or on order since the war — will serve turbine-generators with a combined capacity of nearly 2,000,000 kilowatts. B-301



## COMBUSTION ENGINEERING— SUPERHEATER, INC.

A Merger of Combustion Engineering Company, Inc. and The Superheater Company  
200 Madison Avenue • New York 16, N. Y.

ALL TYPES OF STEAM GENERATING, FUEL BURNING AND RELATED EQUIPMENT



**SUNROC**  
"best value for  
your money"



**SUNROC  
Super Cooler**  
Provides spacious  
refrigerated stor-  
age compartment,  
3 trays of ice cubes,  
ample chilled  
drinking water.

At approximately the same initial cost as standard water coolers, SUNROC offers vastly superior models for every purpose.

SUNROC is the only manufacturer with national factory service facilities for maintaining all makes of water coolers on a planned service contract at a moderate annual fee. SUNROC Water Coolers can be enjoyed with no investment except low-cost rental, in most cities. 77 percent of the buyers listed on the national stock exchanges enjoy the numerous advantages that only SUNROC offers.

For full information and a survey of your water cooler needs, write Dept. BW-4, Sunroc Refrigeration Company, Glen Riddle, Pa.



"SUNROC SERVES THE WORLD...a cool drink of water!"

Sunroc Branch offices offer full and part time sales work in some areas, and under ideal conditions.

over-zealous. Recently the Federal Trade Commission complained about the company's "push money" techniques used to get retail salesmen to sell its products (BW—Jan. 22 '47, p85).

Another invaluable ingredient in Philco's success last year was its nationwide network of trained service men. This has long been Philco's pride and joy. The company offers free home-study courses, classroom teaching and shopwork, up-to-date manuals. Last year it trained 7,000 men in television servicing and installation—a program that Philco thinks is larger than those throughout all the rest of the industry combined.

• **Young Executives**—Philco also owes much to its ability to attract—and keep—key personnel. Its top-executive staff is a comparatively youthful group. It averages under 44 years of age. Yet the same group averages 18 years of service with the company. Among Philco's lures are (1) a three-year scientific training program carried on with the help of several universities, and (2) generous cash bonuses to executives based on sales. (There's also a profit-sharing program for lower-salaried employees.)

Thanks in large measure to its top-executive staff, Philco escaped getting burned when radio-set prices skidded late last year. In the first nine months of 1948, Philco squirreled away an inventory reserve of \$2.1-million out of earnings. It could thus write off year-end inventory losses, at a cost of \$1.9-million, and return \$200,000 to earnings. It was able to sell its sets at reduced prices—and still bring itself and its distributors out in sound shape.

• **Batteries**—Philco has gone far afield from the time it was started back in

1892 as the Helios Electric Co. with a capital of \$12,000. It first turned out a miscellany of electrical goods, then switched over mainly to batteries for autos, trucks, and mine locomotives. In 1906 it became Philadelphia Storage Battery Co.

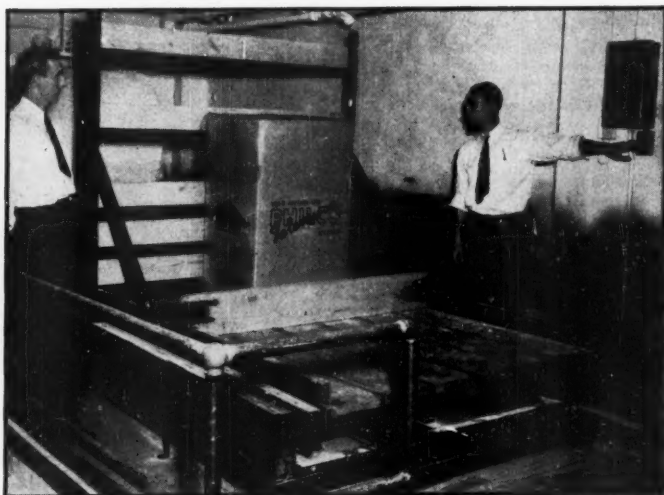
By 1920, batteries for radio sets had become an important Philco product. Philco introduced longer-lived batteries, battery chargers for the home, then a socket power unit that eliminated the need for high-voltage B batteries. Hanging on to radio's coat tails paid off: In 1927 Philco did the bulk of its \$15.4-million business in radio batteries.

• **Radio Sets**—Then a new development in the radio industry put a headlock on Philco: Introduction of the kind of radio you could plug into the wall socket. That finished off radio batteries—and very nearly Philco as well.

But Philco shifted its ground fast, went into low-cost radio-set production on its own. To do this the company officers had to guarantee personally a bank loan of \$7-million.

Their gamble paid off, partly because they were willing to experiment. They made Philco a pioneer in the conveyor-belt manufacture of radio sets. Between August and December, 1929, the new-comer sold nearly 400,000 sets; in a year's time it jumped from 26th to second place in the industry—and got out of debt. All this it did at a time when radio-receiver sales were on the skids. (In 1947 it washed its hands of large-scale battery production when it sold its battery division.)

• **Car Radios**—Philco moved into car radios in 1930 by buying out Transitone Co. Shortly afterward it came out with its own model—selling for less than \$100—and moved out in front as



VIBRATION TABLE tests whether Philco TV set and carton can stand rough travel

*at concrete floor prices you can get  
the beauty and durability of tile*

For concrete floors of tile beauty and durability, specify the use of Colorundum. For hotels, banks, stores, hospitals, service stations and factories you get bright, colorful floors with an armor plate surface—at the cost of an average concrete floor. Colorundum is a dry powder floated and trowelled into the floor topping. It is composed of powerful coloring agents, fused aggregates, water-proofing and hardening elements and cementitious binders. The colorful non-slip, dense surface is an ideal flooring for indoors or outdoors . . . on new work or when resurfacing old floors. Write for further information.



FOR  
INTEGRALLY COLORED

CONCRETE  
FLOORS

**COLORUNDUM**

**A.C. HORN COMPANY, INC.**

Manufacturers of materials for building maintenance and construction  
706 STREET & 44th AVENUE • LONG ISLAND CITY 1, N. Y.  
HARTFORD • CHICAGO • LOS ANGELES • SAN FRANCISCO • TORONTO



PLANTS



DRIVEWAYS



KITCHENS



BANKS



Subsidiary of  
Sun Chemical  
Corporation



WALKS



HOSPITALS



LOBBIES

# no rushing when you choose The BILTMORE

One of the  
World's Great Hotels



If you face a crowded schedule in New York, avoid rushing and make every leisure moment yield maximum relaxation—stay at The BILTMORE. Everything about this famous hotel—its modern rooms, its up-to-date conveniences, its expert service and its gratifying accessibility—helps smooth the way and ease the lot of the busy New York visitor.

*Joe G. Hanna*  
Manager

Write for Illustrated Folder

*The* **BILTMORE**

Madison Avenue at 43rd Street  
New York 17

Direct Elevator to  
Grand Central Terminal

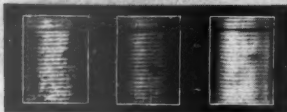
Frank W. Regan, President

## REVOLUTIONARY New Method of Rust Control

**Outperforms** other more complex, more costly "preventives".  
Answers problems never before solved. **CLEAN, SIMPLE TO USE!**  
**Eliminates Slushing in Oil—It's . . .**

**Angier VPI® Wrap**  
\*Vapor Phase Inhibitor developed by SHELL

**PROOF:** Identical steel parts exposed 9 months to industrial-marine atmosphere. These photos are unretouched.



ANGIER creped, waterproofed, reinforced papers for industrial, building and farm use.

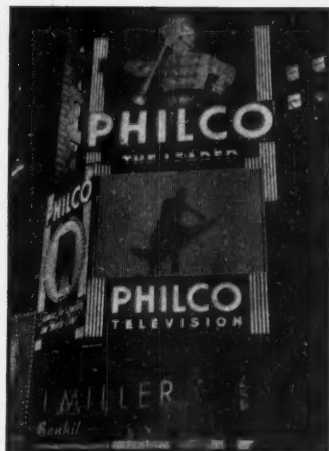
**MORE** than a non-corrosive paper — a revolutionary packaging method of **COMPLETE** rust control. Get the facts now!

**Angier CORPORATION**  
FRAMINGHAM 7, MASS.

Industrial Packaging Engineers Since 1895

Gentlemen: Please send **FREE** 12 page booklet, "Complete Rust Control with Angier VPI Wrap".

Name *Just Off*  
Address *the Press!*  
City & State



**SPECTACULAR** in New York's Times Square promotes Philco TV with a drum major four stories high twirling a baton

top U.S. maker of car radios, a spot it still holds. The Transitone deal also brought along Bill Balderston, whose sales territory was Detroit. Last year—Balderston's first as president of the company—saw Philco's auto-radio sales hit a new high.

But after the Transitone deal, Philco was still looking for new fields, spurred by the desire to fill the low spots between the seasonal peaks in production. The answer walked in the door in 1939 when Fairbanks, Morse & Co. offered to sell its entire refrigerator division, lock, stock, and barrel. Philco jumped at the chance. By 1940 it had come up with its own Philco-designed refrigerators, which blazed a new trail: They had horizontal evaporators and frozen-food storage compartments.

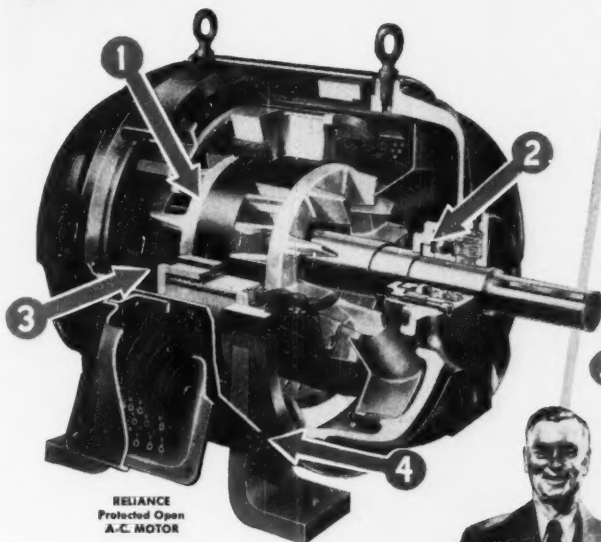
• **New Models**—Philco now makes its refrigerators in the 650,000-sq. ft. plant of Atwater Kent, the one-time leader in the radio-set field. Coming off its highly mechanized production lines are Philco's 1949 models. The lower-priced ones have full-width frozen food compartments; all of them provide more room for food in a smaller box.

At just about the same time it went into refrigerators, Philco also decided to change its financial setup and its name. In 1940 the Philadelphia Storage Battery Co. officially took over the name that had long been its hallmark: It became Philco Corp. It also retired its closely held preferred stock, offered its first public issue of common. Working capital in 1939 was \$12.6-million; at the war's end, \$17-million; last year, \$33.3-million.

• **Television**—Television is far from being a postwar development with Philco. In fact, the company got in on the ground floor with television experi-

**RELIANCE**  
*Precision-Built*  
**MOTORS**

... are made **better**  
to deliver **DEPENDABLE POWER—LONGER!**



**These Four Features Alone  
make RELIANCE the motor for you!**

- 1 Dynamic Balancing — Precision Fits** — Every motor is dynamically balanced by skilled technicians using latest electronic-principle equipment. Machining of parts to exacting tolerances guarantees precision running, longer-lasting motor!
- 2 No Lubrication Worries** — Precision Bearing Mounting, with double-shielded ball bearings, assures longer bearing life under all normal conditions, whether overgreased, undergreased or not greased at all. "You can't grease 'em wrong."
- 3 Roll-X Insulation** furnishes a new high in the protection of stator windings. Selected materials, exclusive methods and new continuous-sequence applications make this the *unfailing* insulation!
- 4 Steel for Strength** — Steel construction, with electrically welded joints, combines maximum strength with minimum weight.



**HOW TO  
SELECT THE  
RIGHT MOTOR**

Here's a book which digests all the information you should have in selecting the motor that's just right for any job. New torque and current standards recently adopted by the National Electrical Manufacturers Association for A.C. motors are tabulated and explained. And these are further supplemented by more detailed performance data on Reliance *Precision-Built* Motors. Write today for this important new Motor Data Bulletin, B-2101.



Reliance has a way of building motors that must be seen to be fully appreciated. Any time we can take a motor user through the modern plants where Reliance *Precision-Built* Motors are made, we can be reasonably sure of another good Reliance customer. We would be delighted to have you make this visit. But if it isn't practical, call in your nearest Reliance representative and *see* the convincing facts he can show you on the precision methods that produce these truly superior motors.

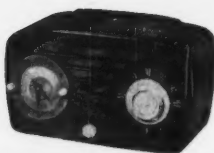
*Sales Representatives in Principal Cities*

**RELIANCE ELECTRIC AND  
ENGINEERING CO.**

"Motor-Drive is More Than Power"

1900 Franklin Road, Cleveland 10, Ohio

**It pays to use your  
custom molder's know-how  
say Jewel Radio Executives**



## No. 4 in a Series on Plastics Skill at Work...

**CHANGING HOLE LOCATIONS** on the bottom of the cabinet was required for various production runs. Tech-Art's solution was to use modern multihead drills instead of a cam action mold.

**PROJECT:** Radio and Clock Cabinet

**CUSTOMER:** Jewel Radio Corporation  
New York, N. Y.

**MOLDER:** Tech-Art Plastics Co.

**MATERIAL:** Mottle-Finish Durez  
Phenolic Plastic

**HIGH RATE OF PRODUCTION** was achieved for this customer by using semi-automatic compression presses and Thermall electronic pre-heating equipment to mold the Durez cabinets.



● "How many can we turn out...how fast?" An experienced custom molder sitting in at your planning councils can often raise the number that you'd get otherwise.

The Jewel Radio Corporation showed Tech-Art Plastics Co. the sketches of a new radio and clock cabinet. Fast work was urgently wanted...and the finished cabinet weighing almost two pounds would need a rather large mold.

Despite this, Tech-Art engineers offered constructive suggestions, designed the mold, recommended a general-purpose Durez phenolic plastic, and went into production within 10 weeks.

When a second mold and production line method were put into operation, the molder produced at the unusually high rate of 1800 cabinets per day. This schedule of deliveries is being held month after month on a seven-day-week basis.

Since the success of any part depends on the material used in it, Durez field technicians often team up with molders and customers in product planning.

We'll gladly serve you...and our experience as phenolic specialists covers the entire history of the industry.

Durez Plastics & Chemicals, Inc.,  
404 Walck Rd., N. Tonawanda, N. Y.



PHENOLIC  
RESINS

MOLDING COMPOUNDS

INDUSTRIAL RESINS

PROTECTIVE COATING RESINS

**PHENOLIC PLASTICS THAT FIT THE JOB**

ments as far back as 1928. In 1932 it went on the air with an experimental license; in 1941 it got the second commercial license in the U. S.—WPITZ, now the local NBC outlet in Philadelphia. (It is now also the part-owner of a local television station in Atlantic City, N. J., and has applied for a license in Bethlehem, Pa.)

Philco claims a number of "firsts" in television. It says that it pioneered with transmitting pictures with 345 scanning lines, 441 lines, finally 525 lines—the standard adopted by the Federal Communications Commission in 1941.

● **Expansion**—Last year Philco turned out some 200,000 TV sets. This year it is geared to produce somewhere between 400,000 and 500,000. It has a new \$3-million television plant in Philadelphia and is spending about \$1-million to increase the production of TV sets at Sandusky, Ohio. The company also announced a few months ago that it is mechanizing TV-tube production at its Lansdale (Pa.) Tube Co. (BW—Dec. 4'48, p90).

Expansion last year cost Philco some \$4-million. This year it plans to spend about \$3.5-million.

● **New Venture**—Not all of this year's funds earmarked for expansion are going to the television and refrigerator divisions. A new interest of Philco's—electric ranges—will also get a substantial share of the funds.

Philco got into this field when it purchased Electromaster, Inc. (BW—Dec. 4'48, p90). Its plant at Mt. Clemens, Mich., has a capacity of 100,000 units annually. For the time being, Philco will go on using the Electromaster name; it will probably switch to the Philco trademark when it develops its own models.

## JUKEBOX OUTPUT REVIVED

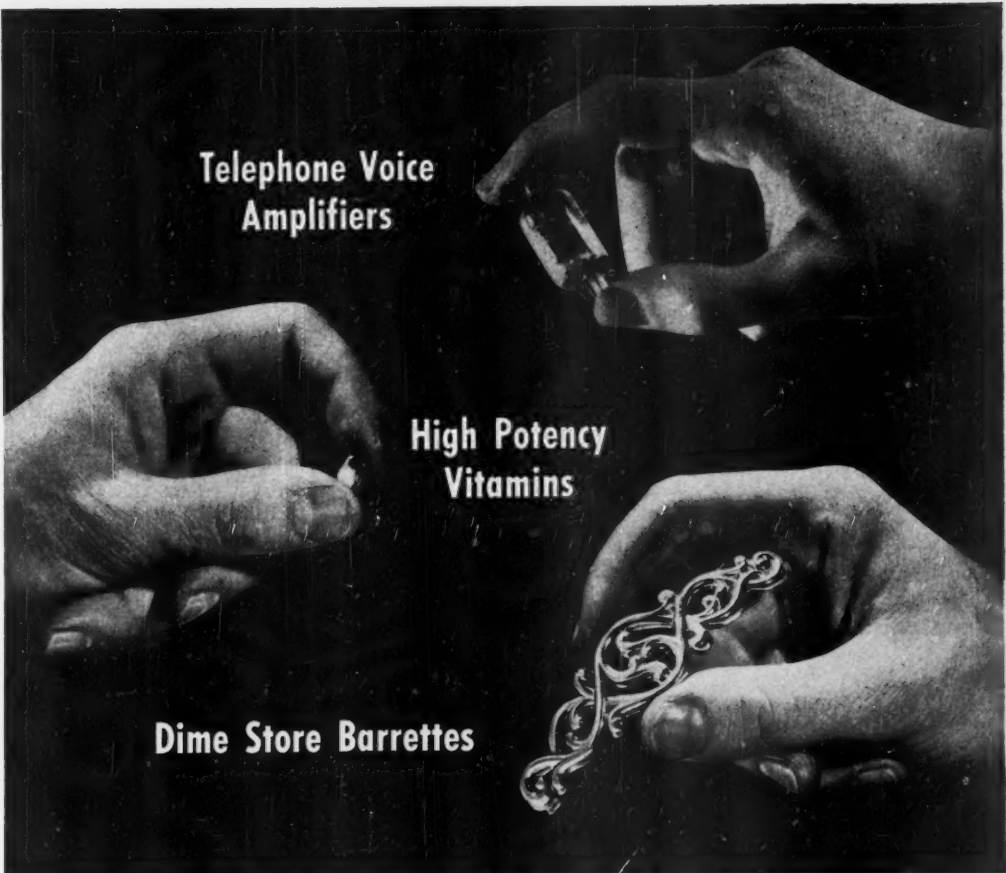
The gaudy lights of Rudolph Wurlitzer's jukebox-making business are coming on again. For 10 months last year they were out completely while production was at a standstill.

Now Wurlitzer has resumed production "on a modest scale, and has begun to show a profit.

The whole jukebox industry, says Wurlitzer, is in an extremely delicate condition. The operator still gets only a nickel a play; he tried to get 10¢, but that attempt fell on its face. Meanwhile, the operator's costs have climbed steadily. Wages nearly doubled, and record prices rose.

Even so, business is looking up. Record costs are on the way down again. And Wurlitzer's new models incorporate a playing arm that makes it possible to get 2,000 to 3,000 plays from one record. Previously a disk was good for a maximum of 100 to 300 plays.





Telephone Voice  
Amplifiers

High Potency  
Vitamins

Dime Store Barrettes

## ...products of High Vacuum

**YOU** 'phone from coast to coast and converse as easily as though you were in the same room. The reason, a tiny electronic repeater tube that prevents voice fading. It works only because a high vacuum pump has exhausted air from the glass tube to a degree that closely approaches perfect vacuum.

Important vitamins for food fortification, pharmaceuticals and doctors' prescriptions are available at moderate cost because of high vacuum. Distilled under high vacuum the extract is purer—can be concentrated to high potencies.

Contrasting sharply to applications in the fields of electronics and bio-chemistry is the use of high vacuum in depositing metallic vapors on glass, wood, cloth, paper and plastics. Inexpensive but beautiful novelty jewelry, ornaments, barrettes, etc., are coated inside huge chambers from which air has been exhausted . . . a plating process that gives better results, cuts costs and permits bargain prices to a mass market.

These examples serve to emphasize the scores of different ways DPI high vacuum equipment is enabling new products and

better products to be made at lower costs.

Perhaps high vacuum can work for you. DPI can aid in research, in setting up pilot operations, and can advise on engineering and building complete installations for profitable commercial applications of high vacuum. We invite inquiry.

## **DISTILLATION PRODUCTS, INC.**

739 RIDGE ROAD WEST, ROCHESTER 13, N. Y.

*Distillers of Oil-Soluble Vitamins and Other Concentrates for Science and Industry;  
Manufacturers of High-Vacuum Equipment.*

**DPI**

HIGH VACUUM RESEARCH  
AND ENGINEERING



**C**RASH-LANDING coming up . . . soon. And that's always the result when would-be intruders tangle with Cyclone—the fence that has been protecting property for many years.

Yes—for over 50 years, Cyclone Chain Link Fence has been protecting property and equipment. But it isn't protection alone that has made Cyclone so popular with plant management. It's also the way a Cyclone Fence *stays* taut and true, year after year, without upkeep expense.

Naturally, it takes *proper* design,

*rugged* construction and *expert* installation to assure such lasting service. And all of these special features, which make long-life a certainty, are explained fully in our free book —“Your Fence.”

Send for a copy. Then, if you want further help, ask for assistance from our sales engineers. And please keep this statement in mind: *No job is too large—no job is too small for Cyclone.*

**CYCLONE FENCE DIVISION**  
(AMERICAN STEEL & WIRE COMPANY)  
WAUKEGAN, ILLINOIS • BRANCHES IN PRINCIPAL CITIES  
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

## U.S.S. CYCLONE FENCE

CLIP THIS COUPON  
SEND IT TO—



Cyclone Fence, Waukegan, Ill., Dept. 449

We'll send you our free, 32-page book on fence. It's full of facts, specifications, illustrations. Shows 14 types of fence. Before you choose any fence for your property, get the facts about Cyclone.

Name.....  
Address.....  
City..... State.....  
Interested in fencing: ☐ Industrial; ☐ School; ☐ Playground; ☐ Residence. Approximately ..... feet.



UNITED STATES STEEL

## Do They Read?

Advertisers and editors would both like to know. New continuing business-paper study will find some answers.

How well does a businessman read his trade paper? That's a question plenty of advertisers would like to have answered. The publishers themselves would like to get the answer, too; it would help them know how well they're keeping their readers informed.

• **Survey**—This week the Advertising Research Foundation gave a partial answer to just that question. A. W. Lehman, managing director of the foundation, released a thorough study of the Oct. 15, 1948, issue of Automotive Industries, a semimonthly trade paper published by the Chilton Co., Inc.

(The Advertising Research Foundation is sponsored jointly by the American Assn. of Advertising Agencies and the Assn. of National Advertisers. The survey was made in conjunction with Associated Business Papers, Inc., which has a membership of 137 publications.)

The Automotive Industries study is the first in what the foundation calls the Continuing Study of Business Papers. The survey parallels other studies made by the foundation in other fields. These include the Continuing Study of Newspaper Reading (127 of these surveys have already been made), and studies of farm publications, weekly newspapers, and transportation advertising.

• **Specialist**—To measure the readership of advertisements and editorial content, the foundation called in the market-research organization of Alderson & Sessions, Inc. This company interviewed 463 persons, during a period between four and six weeks after they had received the publication. This group included 195 subscribers, and the persons to whom they later passed the magazine along. (The study found that 66% of these readers pass their copies along.)

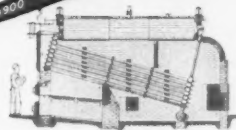
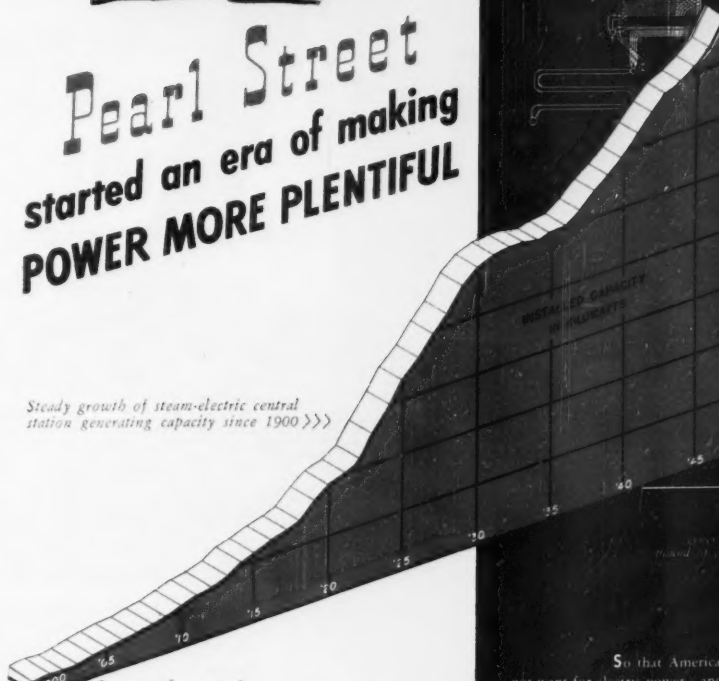
It's hard to tell just how well Automotive Industries fared. You have to remember that this is Study No. 1; that means there's no basis for comparison with other magazines until more studies are completed. The whole subject can't really be nailed down firmly until there are at least half-a-dozen such studies on the books.

• **Editorial**—Nevertheless, Study No. 1 shows some interesting facts about readership. Of the 463 persons interviewed, 80% said they had read the Oct. 15 issue of Automotive Industries. By giving these persons an “identification test” (in which they were asked



# Pearl Street started an era of making POWER MORE PLENTIFUL

*Steady growth of steam-electric central  
station generating capacity since 1900 >>>*



*Steam for the 540 kw. Pearl  
Street Station was supplied  
by four 216 HP Boilers  
like this one.*



## BABCOCK & WILCOX

THE BABCOCK & WILCOX CO.

General Offices: 85 Liberty St., New York 6, N.Y. Works: Alliance and Babylon, O., Augusta, Ga.  
Water-Tube Boilers, for Stationary Power Plants, for Marine Service ... Water Cooled Furnaces  
... Superheaters ... Economizers ... Air Heaters ... Pulverized-Coal Equipment ... Chain-  
Grate Stokers ... Oil, Gas, and Multifuel Burners ... Seamless and Welded Tubes and Pipe ...  
Refractories ... Process Equipment

So that American homes, businesses and industries shall not want for electric power—and the unbounded services, conveniences and comforts it affords—the nation's power supply is being stepped up at a record rate. Nearly 80 percent of this increased capacity is being provided by privately-owned utilities at a cost of several billion dollars.

Most of America's new power—over 75 percent of it—is being generated by steam-operated equipment—a practice started in 1882 at Mr. Edison's Pearl Street Station, grandfather of modern central stations, and preferred throughout the industry's amazing 67-year growth.

And in selecting boilers for its latest increased steam requirements, the electric power industry is continuing another industry-old preference started at Pearl Street—B&W units. New B&W central station boilers placed in service or ordered since V-J Day have a combined steam capacity sufficient for over nine million kilowatts of generating capacity.

Central stations can always depend upon B&W for boilers that offer the last word in efficient, reliable steam generation... because B&W intensive research and resourceful engineering is constantly concentrated on helping to make power more plentiful at the least possible cost.

# Does your business

*Luria buildings offer you all the advantages of standardization—without the usual limitations*

**LOWER COSTS**, through quantity production—without compromising on quality.

**HEAVIER FRAME CONSTRUCTION** permits the use of fewer and stronger structural members.

**GREATER FLEXIBILITY**—with wide choice of collateral materials, optional features and accessories.

**EASIER ERECTION**—because all field connections are designed for bolting. No welding or riveting required.

**MORE USABLE SPACE**—Luria's truss-free, rigid-frame construction gives unobstructed head room for the full length of the building.

**GREATER AVAILABILITY**—many sizes carried in stock for immediate delivery.



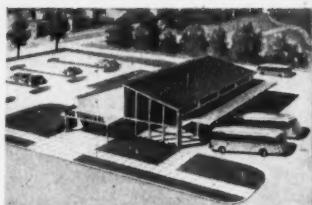
**HERE ARE JUST A FEW OF THE HUNDREDS OF APPLICATIONS WHERE YOU CAN SAVE**



**Need extra warehouse space?** Luria can meet your exact requirements—by the square foot, or by the acre—and give you prompt delivery, too.



**A new factory?** Plan it around Standard Buildings by Luria and get exactly what you want—even to the choice of collateral materials and optional features.



**A bus or truck terminal?** Luria buildings can provide all the facilities you need—for offices, storage, waiting rooms, loading areas—all from a standard line.



**A new branch bank?** A Luria building, of course—in either modern or traditional design. A building that you, and your community, can be proud of.



**A building supply yard?** Here's a typical example, where Luria buildings provide all needed facilities for a dealer in building materials and fuel.



**An automobile show room?** Make it a Luria building—modern in design, costly in appearance, yet easy on your budget, easy to erect, easy to maintain.

A  
bu  
"no  
to v  
por  
For  
20  
cas  
pla  
Sta  
I  
tha

W

A ste  
est ty  
runw

What  
gars  
the o  
airpo

# ss need more room to grow?

You can save up to 50%  
by planning your new  
building program around  
**Standard Buildings**  
by **LURIA**



A growing business can't wait for building costs to come back to "normal." And there's really no need to wait — or to compromise on temporary, emergency facilities either. For you can build *now*, at savings of 20 per cent, 30 per cent and in some cases as much as 50 per cent, by planning your expansion around Standard Buildings by Luria.

It all began with an idea. The idea that *permanent*, heavy steel-frame

buildings could be standardized — yet kept flexible enough to permit the widest possible range of adaptability and architectural freedom.

This idea is now a reality. For today, Luria buildings reflect the highest degree of standardization ever attained in the building industry. Yet they are so flexible in design — with such a wide range of sizes, optional features, and collateral materials — that they can, in effect,

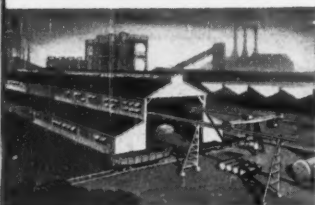
be "custom tailored" to meet your precise requirements.

Luria buildings are *not* lightweight temporary structures. They are *permanent* buildings, designed to meet the most exacting codes. Yet they actually cost little or no more than temporary prefabricated buildings of equivalent size — and as much as 50 per cent *less* than conventional, specially-engineered structures.

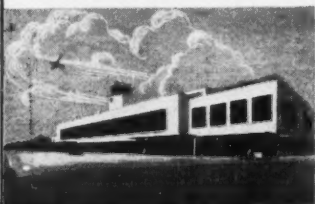
Before you ask for bids on any new building, be sure to get your copy of our new 20-page catalog on the complete Luria line. We're sure you will agree, as have hundreds of satisfied users, that Luria offers you the greatest value for your building investment today.

**Note to Architects:** This catalog belongs in your files, too! For here is a new and flexible medium to work with — standard buildings that can be incorporated into any one-story plan with complete confidence. Yet they leave you abundant scope for your own creative ingenuity!

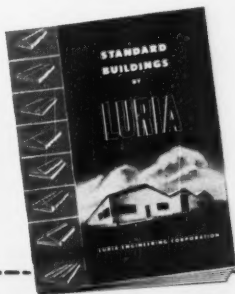
## WITH LURIA BUILDINGS



**A steel fabricating plant?** Even the heaviest type of industrial buildings, with crane runways, are now standard with Luria.



**What about airports?** Luria standard hangars and administration buildings (like the one shown above) are in use at major airports all over the world.



## Standard Buildings by **LURIA**

LURIA ENGINEERING CORPORATION, Dept. B-20, 500 FIFTH AVE., NEW YORK 18, N. Y.

Gentlemen: Please send me a copy of your new catalog.

Please indicate the type of building in which you are interested:

- ☐ INDUSTRIAL  
☐ COMMERCIAL  
☐ AIRPORT

NAME.....  
COMPANY.....  
ADDRESS.....  
CITY.....STATE.....



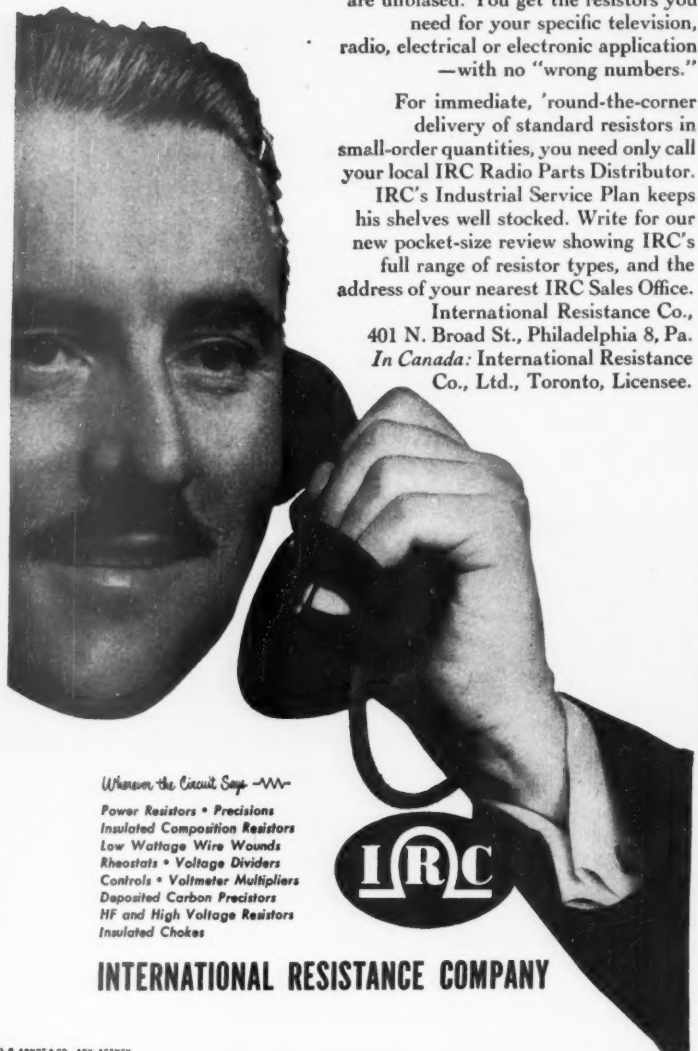
# Next time you call long distance...

**REMEMBER** — the human chain reaction that speeds your call is like IRC's integrated resistor service. With 17 strategically located sales offices, IRC gives the same immediate attention to your wants. Streamlined organization and competent engineering advisory service permit us to handle orders or queries without delay. And because IRC makes the widest range of resistance products in the industry, our recommendations are unbiased. You get the resistors you need for your specific television, radio, electrical or electronic application — with no "wrong numbers."

For immediate, 'round-the-corner delivery of standard resistors in small-order quantities, you need only call your local IRC Radio Parts Distributor.

IRC's Industrial Service Plan keeps his shelves well stocked. Write for our new pocket-size review showing IRC's full range of resistor types, and the address of your nearest IRC Sales Office.

International Resistance Co.,  
401 N. Broad St., Philadelphia 8, Pa.  
In Canada: International Resistance Co., Ltd., Toronto, Licensee.



Whenever the Circuit Says —

Power Resistors • Precisions  
Insulated Composition Resistors  
Low Voltage Wire Wounds  
Rheostats • Voltage Dividers  
Controls • Voltmeter Multipliers  
Deposited Carbon Precistors  
HF and High Voltage Resistors  
Insulated Chokes



**INTERNATIONAL RESISTANCE COMPANY**

Advertisement

## Small-As-A-Nickel Finger-tip Controls For Instruments, Hearing Aids, Pocket Radios

Wafer-thin and no bigger than a button, a recently developed finger-tip control is simplifying the manufacture and operation of all sorts of miniature electrical products. Hearing aids, electrical instruments, testing equipment and pocket-size radios, all can be lighter, more compact, more efficient because of this tiny control.

Pioneered by International Resistance Company, and known as Type HB, the control features a quiet element, simplified construction, and a unique rotating cover and contactor which permit ready resistance adjustment. No bigger around than a nickel, it entirely eliminates the shaft, bushing and bulky knob of conventional-type controls. It is available for edge-wise installation in either black or colored molded polystyrene.

Full details are contained in IRC's Catalog Bulletin A-1. Write International Resistance Company, 401 N. Broad St., Philadelphia 8, Pa.

## Low-Cost Stability for Low-Range Requirements Type BW INSULATED WIRE WOUND RESISTORS

Developed especially to supplement insulated composition resistors, IRC BW Wire Wounds give exceptional low-cost stability in low-range applications. Excellent performance record in meters, analyzers, television circuits, low-range bridge circuits, high stability attenuators, low-power ignition circuits, and as spark suppression units. Full details of moisture-resistant BW's available in IRC Catalog Bulletin B-5. Write International Resistance Co., 401 N. Broad St., Philadelphia 8, Pa. In Canada: International Resistance Co., Ltd., Toronto, Licensee.

BW-1/2 0.24 ohm to 820 ohms  
BW-1 0.47 ohm to 5100 ohms  
BW-2 1.0 ohm to 8200 ohms

Write for Free  
Copy Today



**INTERNATIONAL RESISTANCE CO.**

to select articles that had appeared, from a "qualifying kit" which contained both published and unpublished pieces) the 369 "claimed readers" were reduced to 330, or 71.3% of the total interviewed. All readership scores for the issue were based on the responses of these 330 "qualified" readers.

For the total of "departments" and "features" the average readership was 35%; scores ranged from 82% to 8%. Pictures in the editorial section of the magazine drew an average readership of slightly more than 50%, with scores ranging from 91% to 14%.

• **Advertising**—Ad readership averaged about 20%. By product classifications, "component parts" advertising led with an average readership of 23%. The lowest category was "supplies," with 15%.

The study points out, however, that 96% of the readers noted one or more ads in the issue. Of the 21 highest scoring advertisements, 19 were full pages, one was an insert (an ad on both sides of the same page), one a spread.

The three advertisements topping the list were black-and-white. But among the top 21, there were twice as many color ads as black-and-whites.

• **Quality**—Here's another item the survey brought to light: 60% of the persons interviewed said they make or influence purchases of supplies and equipment. And another 14% said that one of their duties was to make "recommendations" for such purchases.

## MARKETING BRIEFS

Retail toilet-goods sales during 1948 inched ahead of the 1947 mark by 0.8%. The Toilet Goods Assn. puts last year's total at \$687.6-million.

New magazine called *Tops* will be a refinement of the comic-book technique—for adults. It's in four colors and will hit the stands Apr. 27. New York publisher Leverett S. Gleason says *Tops* will have a guaranteed circulation of 300,000.

Rug prices are heading down again. In January there was a general increase of about 3%. Last week three major makers of wool floor covering—Mohawk, Bigelow-Sanford, James Lees—cut prices on their woven lines by an average of 2%.

Oklahoma's "loss-leader" act went out the window last week when the state's Supreme Court found it unconstitutional. Passed in 1941, the law forbade retailers to sell at a loss, required at least a 6% markup. This wasn't a fair-trade law—which permits manufacturers to specify minimum resale prices.



# Battery Case

## Largest single-shot of Polystyrene ever molded

MADE BY STOKES MOLDED PRODUCTS, INC.  
SUBSIDIARY OF ELECTRIC STORAGE BATTERY COMPANY

▲ To our knowledge, this battery case is the largest single-shot of polystyrene ever molded. It contains 9 pounds 2 ounces of Koppers Heat-Resistant Polystyrene 8. The dimensions are 11 x 8 x 12 inches with an average wall thickness for the case of 1/4 inch.

Hundreds of other battery cases have been molded of Koppers Polystyrene because of its excellent combination of properties. It resists all concentrations of battery acids, has extremely low water absorption and is considerably lighter than materials previously used in battery cases.

The electrical properties of Polystyrene 8 are excellent and its heat resistance under ASTM test D648-455 is 204°F.

In addition to all its superior qualities, the cost of Polystyrene 8 is low. That's why it is used for so many plastic products from kitchenware to the most modern refrigerators.

Koppers Polystyrene is made in three types—

Koppers Polystyrene 8, the heat-resistant polystyrene.

Koppers Polystyrene 7, the general purpose type.

Koppers Polystyrene 3, the lubricated type for fast, easy moldability.

Koppers Technical Staff of research chemists and engineers is ready at all times to help you with your problems in plastics. Feel free to call on them. There's no obligation.

### KOPPERS COMPANY, INC.

Chemical Division, Pittsburgh 19, Pa.  
Regional Offices in New York, Chicago and San Francisco



## Koppers Perfected Plastics

\*POLYSTYRENE

\*ETHYL CELLULOSE

\*CELLULOSE ACETATE

#### For information on Koppers Perfected Plastics

Koppers Company, Inc.  
Chemical Division Dept. BW-49  
Pittsburgh 19, Pa.

Please send me your new booklet on Koppers Perfected Plastics.

Name.....Position.....

Company.....

Address.....

# THE EFFICIENCY EXPERT EVERYONE LOVES



*Water Coolers*

**GENERAL  ELECTRIC**



FOR A SURVEY of the water-efficiency factor in your plant or office, phone the G-E dealer under "Water Coolers" in the Classified Directory...For booklet write General Electric, Department BW6, Bloomfield, N. J.

## READERS REPORT:

### U. S. vs. British Productivity

Sirs:

In your picture article on "Two Ways of Making Jet Aircraft Engines" [BW—Mar.12'49,p101], there is one photograph showing a British worker at the de Havilland plant tapping turbine blades on a small drill press, and immediately to the right of this picture you show a woman worker at the Allison plant. You say that she is doing on a multiple basis what the British worker is doing. . . .

She is not tapping turbine blades but performing a grinding operation—in fact, if I am not mistaken, it is an Ex-Cell-O machine that she is operating. . . .

KEITH F. GALLIMORE, JR.

KLAU-VAN PIETERSON-DUNLAP  
ASSOCIATES,  
MILWAUKEE, WIS.

Sirs:

How does one tap on a surface grinder? . . .

F. A. ZIEGLER

ASST. WORKS MANAGER,  
THE MB MFG. CO., INC.,  
NEW HAVEN, CONN.

Sirs:

. . . There is no question but that the British have their faults as well as ourselves. However, the pictures you show appear to me to be rather misleading, especially to people who do not know one machine or process from another. For example, page 101, lower two pictures: The caption on the British picture indicates the man is tapping turbine blades and this appears to be the case; however, the picture alongside infers that the woman at Allison is doing the same thing (tapping) to 18 blades at once. Actually the woman is grinding the blades on a surface grinder, this operation has no resemblance to a tapping operation. . . .

One disadvantage of our seeming love for standardization is the difficulty of making changes or improvements, once an item is put into production. In order to accomplish such a change, either the item must be eminently unsatisfactory almost to the point of being unsalable, or the recommended change must be such an improvement that the reduction in cost in making it will absorb the cost of the change very rapidly. With the latter I have no fault to find, but some way should be found to get around the former condition. . . .

PHIL C. FAITH

FLUSHING, N. Y.

• The caption on the U. S. picture on page 101 was too brief to be entirely



## How to deliver a load at low cost

The answer's as simple as A, B, C. Get a truck that fits your hauling needs . . . a Dodge "Job-Rated" truck.

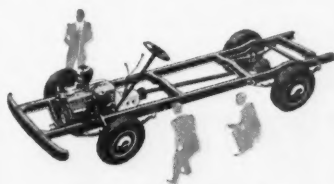
Such a truck will have the right power. It will have the right balance, and the right capacity to haul *your* loads over *your* roads.

That's why Dodge trucks cost so much less . . . to own, and to operate.

See your Dodge dealer. Tell him what you haul . . . the weight of your loads . . . and where you haul them. From 248 basic chassis models he'll specify a truck that's "Job-Rated" for *your* loads.



A "Job-Rated" truck engine provides exactly the right combination of power, performance and economy, for your hauling job . . . insuring low maintenance expense, too.



Every unit of the Dodge truck power line—from engine to rear axle—is engineered to fit the job.

Clutch, transmission and rear axle are "Job-Rated" to move your loads dependably and with utmost economy.



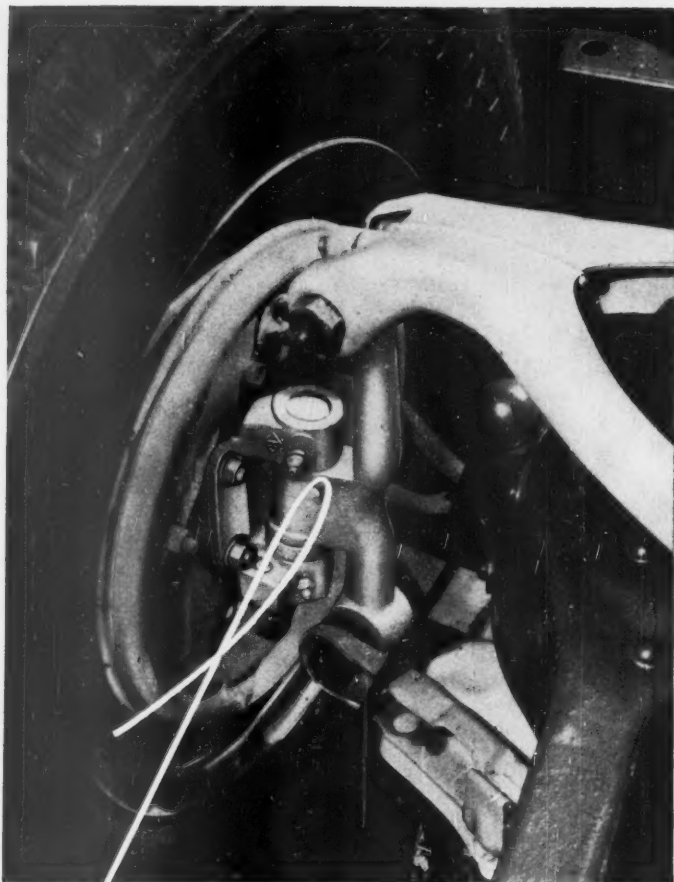
All load-supporting units, such as frames, springs, axles, wheels and tires are designed to fit the job.

That's why Dodge "Job-Rated" trucks "stand up" so well . . . stay on the job . . . and last longer.

For the good of *your* business...

switch to **DODGE**  
"Job-Rated" **TRUCKS**

FOR THE LOCATION OF YOUR DODGE DEALER, CONSULT THE YELLOW PAGES OF YOUR PHONE BOOK



# Forgings from **KROPP**



On modern, high speed automobiles the steering mechanism must not fail, for failure could mean disaster. Only forged parts can supply the strength and fatigue resistance needed to withstand the strains encountered.

In all industry, wherever strength and toughness are required, specify forgings. And for consistently high quality and dependable delivery, specify *Kropp* forgings. Our complete drop, hammer and upset facilities are at your service for the production of "forgings to your specifications."

**KROPP FORGE COMPANY**  
5301 W. Roosevelt Rd., Chicago 50, Ill.



Are you receiving "FORGINGS"... the KROPP publication for industry? If you want to keep current on forging facts, send us your name and address and ask for "FORGINGS".

accurate. The point we were trying to make was that machining is done one blade at a time by the British, while the U. S. handles many. Our caption under the U. S. picture should have said: "A woman at Allison machines 18 blades at once with multiple-fixture machine."

We believe standardization makes it easier to achieve improvements. U. S. electric motors have not declined in efficiency over the years during the course of standardization of the relatively unimportant parts of the design. Standardization doesn't stultify—it releases engineering and production talent to work and concentrate more fully on the important features in a design.

## More in Semicircle

Sirs:

The gremlins must have run off with an important segment of "New Jersey's Semicircle of Science" [BW—Feb. 26 '49, p30]—the omitted part about the Westinghouse Lamp Division's Research Laboratories, Bloomfield, which is about in the geographical bullseye.

BUSINESS WEEK, as well as other general and scientific publications, has frequently reported the accomplishments of our physicists, metallurgists, and bacteriologists.

Typical of the wonders coming out of our laboratories were the first pure uranium for the atomic bomb experiments; the Sterilamp, man's first bacteria-killing lamp; and X-Ray motion pictures.

We have complete facilities for pure research and practical studies of the various problems involving electric lamps, electronic tubes, metals, gases, and glasses.

CARL E. ALBRACHT

LAMP DIVISION,  
WESTINGHOUSE ELECTRIC CORP.,  
BLOOMFIELD, N. J.

Sirs:

... You neglected to mention the small but active scientific organization known as L.A.B. Corp. ...

Specializing in highly developed vibration-fatigue testing machines, L.A.B. also now produces package-testing machines which are widely used by large shippers to assist them in reducing the enormous loss and damage in transportation and handling of packaged products.

H. GEO. D. NUTTING

VICE-PRESIDENT,  
L.A.B. CORP.,  
SUMMIT, N. J.

• Obviously we could not list all the research enterprises in New Jersey's scientific semicircle—as these instances of omissions of a large laboratory and a small one indicate.



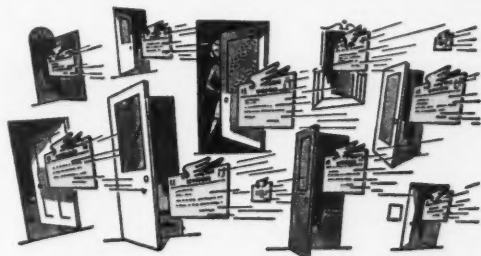
ARE SALES YOUR PROBLEM?

SEND "BOOK" TELEGRAMS

TO STIR BUYING ACTION



**STIR THE SALESMEN.** *Excite them to greater action—with telegrams. During sales contests and sales drives, keep salesmen informed and on their toes. And pave the way for them with advance telegrams to the trade.*



**MAKE MORE CALLS** with "book" telegrams. Your message is sent to a list of addressees simultaneously, covering the ground quickly, economically. Whether you are a retailer, wholesaler or manufacturer—study the promotional possibilities of this major business tool.

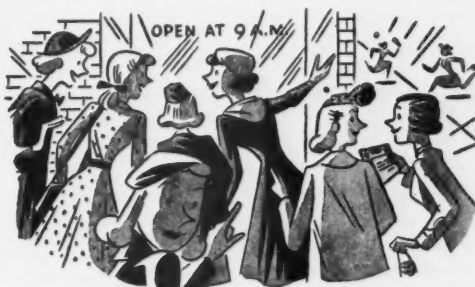
NOTHING ELSE GETS THROUGH,

GETS ACTION...LIKE A...

*Telegrams always win that "important" spot on the desk, get first attention—cut through indifference and get prompt action—provide a permanent record and are legally binding.*



**STIR THE TRADE.** *Get dealers and distributors moving—with "book" telegrams. Whether you're making a special offer—announcing a new product—merchandising a new package—whatever your need—you can get extra orders, displays and tie-ins with "book" telegrams.*



**STIR THE CUSTOMERS.** *To get them coming—get "book" telegrams going! Invite prospects to model showings or openings of new departments, announce bargains and style changes with telegrams. They say "Important!"... get people to come in and see "what it's all about."*

● Ask for a Western Union representative to call and explain—with interesting "case histories"—how Western Union telegrams can help solve your promotional problems and assist in the daily conduct of your business.

**ARE YOU USING TELEGRAMS IN ALL THESE WAYS?**

*For Mother's Day promotions and for other special or seasonal tie-ins to move merchandise.*

*Acknowledging orders or complaints—to give your customers assurance of prompt attention.*

*Conducting business operations. Expediting shipments, placing orders, locating supplies, speeding business.*

**WESTERN UNION  
TELEGRAM**



## This "little yellow hoist" popularized electric lifting

'Budgit' was the first portable electric hoist that, by modern engineering and metallurgy, gave to American industry all the advantages of electric lifting at a price incredibly low—that took the burden from human muscles—and much of cost burden from management. . . . **Thousands were installed** in hundreds of industries as men realized that the 'Budgit' was a vital factor in production, assembly and inspection and wherever lifting was an important part of the day's work. . . . **It saved so much** more than time and money—from some to many minutes every working hour. Workers, finding the job much easier with effortless lifting, and no longer afraid of rupture, sprains and over-tiredness, devoted all their energy to production. Inevitably production increased at lower cost. . . . **'Budgit' is safe** for load and operator. Two brakes automatically control and hold the load should power fail or the electric plug be pulled. . . . **No installation costs!** Hang up, plug in and use. Current consumption is small. So the 'Budgit' pays for itself quickly—and keeps on earning its price over and over again in its long, trouble-free life.

Made in sizes to lift  
250, 500, 1000, 2000  
and 4000 lbs. Prices  
start at \$119. Write  
for Bulletin No. 371.



## 'BUDGIT' Hoists

MANNING, MAXWELL & MOORE, INC.  
MUSKEGON, MICHIGAN

Builders of 'Show-Box' Cranes, 'Budgit' and 'Load Lifter'  
Hoists and other lifting specialties. Makers of Ashcroft Gauges,  
Hancock Valves, Consolidated Safety and Relief Valves and  
"American" Industrial Instruments.

# PRODUCTION

## Handling Fluorescent Tubes

Use them with care and you will have no trouble; they're no more dangerous than most electrical equipment. What accidents there have been have come mainly from careless disposal.

If you use fluorescent lights in your plant or home, you have probably been doing some worrying about recent rumors that they are dangerous. Newspaper stories have played up beryllium poisoning from broken tubes.

• **Exaggerations**—Like other "scare" stories that appear from time to time, these have exaggerated the real danger. Fluorescent tubes, actually, are no more dangerous to handle than many another electrical, mechanical, or consumer device.

In the last week, rumors have pyramided to the point that many plants have started circulating hasty warnings among personnel. Even cities have taken action: This week, the New York City Board of Health held a meeting with manufacturers and users to work out adequate rules for lamp disposal, figure out ways of distributing the data.

• **Spurred to Action**—Aware all along that beryllium is a poison, the lamp-makers have given information about

disposal to big users. But they haven't printed a warning on their lamp packages, nor generally spread the word among home users. They didn't think it was necessary. As one maker explains it, more than 500-million of the lamps have been used since their introduction in 1938, and the number of reported inflammations traceable to beryllium has been infinitesimal.

The newspaper stories have now spurred the industry to launch an educational campaign, based on facts, to reach all users.

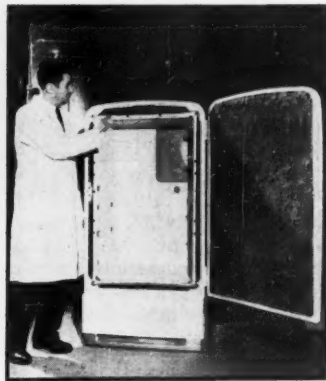
• **The Facts**—Here are simple facts: Fluorescent lamps are coated on the inside with a phosphor (fluorescent material) that contains a small amount of beryllium ranging from a fraction to 4%. The lamps also contain mercury vapor. Beryllium is a poison, so if you cut your hand with a broken tube, and don't get it treated promptly and adequately, the cut may become inflamed.

When lamps are burned in an in-



## Plastic Bubbles Are . . . . . New Insulation

This hunk of plastic foam, weighing only 8 lb., is made by expanding a phenolic resin to 100 times its original volume. Scientists at the Westinghouse Research Laboratories, who developed the foam, heat the specially compounded, molasses-like resin to 350F. The resulting substance—20 times lighter than the meringue on a pie—is expected to make an important new insulation.

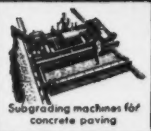


The new insulation gets a test in a refrigerator door. Technicians first pour a small amount of liquid resin into the door cavity, then heat whole assembly for 15 minutes. The resin foams up into thousands of tiny gas bubbles, fills the space. Westinghouse sees potential saving because insulation can be shipped as liquid, then foamed up where and when it is needed.

# BACKGROUND FOR MODERN TRANSPORTATION



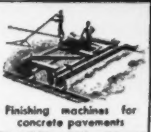
Spreader and Finisher  
for bituminous paving



Subgrading machine for  
concrete paving



Concrete Spreader for  
highway paving



Finishing machine for  
concrete pavements



Truckmixers for mixing  
concrete in transit



Clamshell Buckets for  
digging and rehandling



Batching Plants for  
aggregates and cement



Pavers for mixing and  
placing concrete paving

To a great extent the highways of America bear the Blaw-Knox trademark, for Blaw-Knox is responsible for innovations and developments in road-building machines and equipment that have changed paving from feet-per-day to feet-per-hour.

In many other fields, too, Blaw-Knox engineering knowledge and production facilities can help to cut costs and increase production. An engineer-to-engineer discussion is invited.

Representative of Blaw-Knox products and services are the following:  
Design and construction of complete  
CHEMICAL AND PROCESS PLANTS.

PROCESS EQUIPMENT and machinery for the chemical and food industries.

STEEL AND ALLOY CASTINGS giving maximum resistance to wear, heat and corrosion.

ROLLING MILLS, AUXILIARY MACHINERY, ROLLS and other special equipment for the steel and non-ferrous industries.

PIPING SYSTEMS for high pressures and temperatures.

AUTOMATIC SPRINKLER, fog, and deluge systems.

RADIO TOWERS and antenna supporting structures for all types of broadcasting and communications.

ENGINEERED BUILDINGS for industry and agriculture.

STEEL FORMS for concrete construction.

CLAMSHELL BUCKETS

OPEN STEEL FLOORING AND STAIR TREADS

ENGINEERING SERVICE in the design of special machinery and processes for industry at large.

## OPERATING AND SALES DIVISIONS

BLAW-KNOX DIVISION  
BLAW-KNOX SPRINKLER DIVISION\*  
BUDLOVAK EQUIPMENT DIVISION  
BUDLOVAK MIDWEST COMPANY  
CHEMICAL PLANTS DIVISION\*  
THE FOOTE COMPANY, INC.\*\*  
LEWIS FOUNDRY & MACHINE DIVISION  
NATIONAL ALLOY STEEL DIVISION  
PITTSBURGH ROLLS DIVISION  
POWER PIPING DIVISION\*  
UNION STEEL CASTINGS DIVISION

\*Operates as a division of Blaw-Knox Construction Company  
\*\*Subsidiary of Blaw-Knox Company

# BLAW-KNOX COMPANY

A Pioneer for American Initiative and Ingenuity  
2104 Farmers Bank Bldg., Pittsburgh 22, Pa.



Industrial  
Buildings



Open  
Flooring



Iron, Steel &  
Alloy Castings



Power  
Piping



Rolls for  
Rolling Mills



Rolling Mill  
Equipment



Chemical  
Plants



Towers



Food Processing  
Equipment



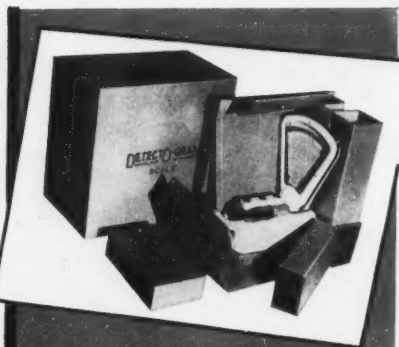
Process  
Equipment



Steel  
Forms

## SHOCK-PROOF SHIPPING BOX

You can't take chances in shipping delicate, precision equipment. If such equipment is damaged in transit, your customer will probably look elsewhere the next time he places an order. Whatever your product, the H & D Package Laboratory can work out a safe, dependable, economical packaging method that will protect your goodwill . . . and your profits!



## Use the LUGGAGE BOX for Extra Sales Appeal

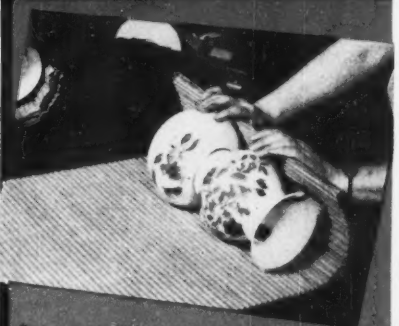
Promotion of seasonal merchandise is but one of many successful applications of the H & D luggage box. Use it to add extra value to your product, to win extra sales appeal. It makes your product easier to carry, easier to use. Your dealers will endorse it—because it displays well, simplifies the selling job, reduces selling costs, eliminates repacking and wrapping.



## PLYPAK\*

### A Packaging Material of a Thousand Uses

PLYPAK\* is a corrugated packing material that combines several thicknesses of corrugated paper to form a protective "blanket" which is ideal for packaging fragile merchandise. Clean and easy to handle, PLYPAK\* is simply "wrapped" around a product, gives it a soft, close-fitting cushion that defies shock. Ask for sample.



REG. U. S. PAT. OFF.

REG. U. S. PAT. OFF.  
**H & D**  
**BOXES**

FOR MORE INFORMATION, WRITE  
**HINDE & DAUCH**  
*Authority on Packaging*

EXECUTIVE OFFICES:  
4964 DECATUR STREET, SANDUSKY, OHIO

FACTORIES IN:  
Baltimore 13, Md. • Buffalo 6, N. Y. • Chatham, Ontario • Chicago 32, Illinois • Cleveland 2, Ohio • Detroit 27, Mich. • Gloucester, N. J. • Hoboken, N. J. • Kansas City 10, Kansas • Lenoir, N. C. • Montreal, Quebec • Richmond 12, Va. • St. Louis 13, Mo. • Sandusky, Ohio • Toronto, Ontario • Watertown, Mass.

cinerator, beryllium fumes can be formed. When hundreds of lamps are burned at one time—as they are daily in big plants—the attendant can get lung trouble if he breathes the gas.

Gas poisoning, however, could hardly occur at home. Cuts, though rare, are more likely; if they are treated promptly and properly there will be no trouble. Best thing to do is to go to a doctor. If you can't, wash the cut with soap and water, get all glass splinters out, apply a recognized antiseptic and a sterile dressing.

• **Report on Beryllium**—The whole problem got a thorough going-over last year in a project sponsored by the Medical Advisory Committee on Beryllium, a group of industrial medical advisers. It is headed up by Dr. J. G. Townsend, medical director of the industrial division of the U. S. Public Health Service. You can get this report from the Saranac Laboratory, Saranac Lake, N. Y.; and it has been reprinted by the National Safety Council. The report was prepared with the advisory help of industrial medical consultants; it represents sane thinking about the problem.

Here's the way to handle the tubes in your home or plant:

If you have to destroy only a few, break them out of doors in a waste-disposal area—and put each tube in its original container before you break it. Try not to breathe the dust or vapors, and attend promptly to any cuts.

If you have to break a lot of bulbs, get a waste container fitted with an exhaust hood.

• **Cautions**—Don't use an incinerator; water or dump disposal is much safer from the dust angle. And if you use a dump, make sure that children can't get at the tubes to use them as playthings.

It's a good idea, too, to have your operator wear heavy gloves when he breaks the bulbs. That isn't really necessary in the home.

Eventually, however, you will be able to relax some of your precautions, for researchers, in their quest for better light from the tubes, are now working with phosphors that do not contain beryllium.

## BLIPS ARE BUGS

Reflections of unknown origin appearing on radar screens have stumped the experts for about eight years.

Bell Telephone Laboratories men have the answer: flying insects. For a while, the presence of "angels" was laid to the weather; simulated weather tests proved otherwise. On a hunch, the experts tried counting the insects passing through a radar beam and the number of "angels" simultaneously seen on the radar screen. The count came out about even.

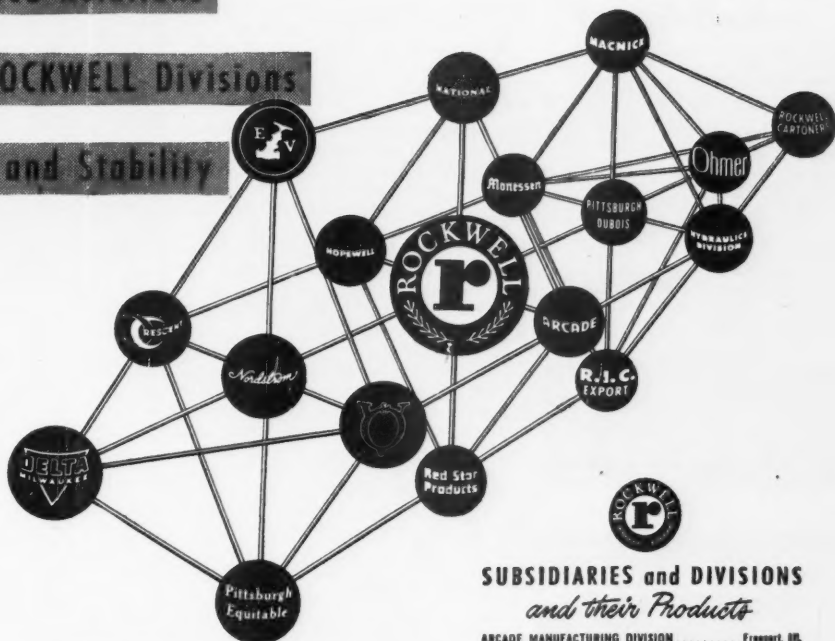


# HOW

**Coordinated Relations**

**Give 17 ROCKWELL Divisions**

**Strength and Stability**



The Rockwell industrial pattern is an integrated and inter-related one. There are 17 individual divisions and subsidiaries closely linked one to another. All evolve about and are coordinated by the parent firm.

Each company member in the Rockwell group is sufficiently independent to operate with the flexibility inherent only in a small business. Yet each enjoys the advantages of large scale centralized purchasing and research facilities, the pooling of collective manufacturing knowledge and the economies of mass marketing.

Under the Rockwell pattern, the individual plant units prosper to a greater extent than if separately operated. From the buyer's standpoint the advantages of this coordinated relationship translate into better products, better service, better values.

*"The Biggest Small Business in America"*

# ROCKWELL

**MANUFACTURING COMPANY**  
PITTSBURGH 8, PA.

## SUBSIDIARIES and DIVISIONS *and their Products*

ARCADE MANUFACTURING DIVISION	Freeport, Ill.
Foundry Molding Equipment	
CRESCENT MACHINE DIVISION	Louisville, Ohio
Woodworking Machines	
DELTA MANUFACTURING DIVISION	Milwaukee, Wis.
Machine Tools	
EDWARD VALVES, INC.	East Chicago, Ind.
Steam Valves	
HOPEWELL DIVISION	Hopewell, Pa.
Parts and Assemblies	
HYDRAULICS DIVISION	Pittsburgh, Pa.
Hydraulic Propulsion Units	
MACNICK DIVISION	Tolosa, Ohio
Parking Meters (Manufactured for Magee-Hale Park-O-Meter Co.), Chart Clocks	
MONESSEN FOUNDRY DIVISION	Monessen, Pa.
Iron and Brass Castings	
NATIONAL METER DIVISION	Brooklyn, N. Y.
Water Meters	
HORDSTROM VALVE DIVISION	Pittsburgh, Pa.
Lubricated Plug Valves	
OHMER CORPORATION	Dayton, Ohio
Cash Registers, Fare Registers, Taximeters	
PITTSBURGH DUBOIS DIVISION	DoBois, Pa.
Gas Meters	
PITTSBURGH EQUITABLE METER DIVISION	Pittsburgh, Pa.
Gas Meters and Regulators, Oil Meters	
RED STAR PRODUCTS, INC.	Marshall, Ohio
Radial Saws	
ROCKWELL INTERNATIONAL CORPORATION	New York, N. Y.
Export	
ROCKWELL PACKAGING MACHINES, INC.	Hudson, N. Y.
Cartoning Machines	
V&O PRESS COMPANY DIVISION	Hudson, N. Y.
Punch Presses	





## CROSLLEY of U.S.A. —leads the way

Here's the new economy car styled for the U.S.A.—made in the U.S.A. Larger, longer body lines, a clean sweep of design that's truly American.

New Crosley Station Wagon (above) is the biggest selling station wagon in the world. Sleek body lines. Seats 4, or 2 with  $\frac{1}{2}$  ton load. All steel. No increase in price. New Crosley Sedan Deluxe (below) is bigger, with speed-line styling, rich interior, choice fabrics. Seats 4 with ample luggage room.

All 5 new Crosley models—including Convertible, Panel Delivery and Pick-up Truck—look big, feel big, act big—cost little to buy or drive. Powerful Crosley engine takes steep hills in high, gives you up to 50 miles on a gallon of regular gasoline. And a Crosley costs less than an 8-year-old, high upkeep used car. Prices range downward from the Station Wagon at only \$929 F.O.B. Marion, Indiana.

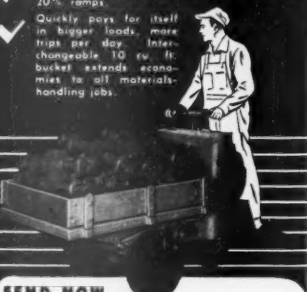
For complete new catalog, write your name and address on the margin of this page, tear out and send to Crosley Motors, Inc., 2530-BE Spring Grove Ave., Cincinnati 14, Ohio.

**CROSLLEY**  
A FINE CAR



## new Moto-Bug

- ✓ Safely hauls over  $\frac{1}{2}$  ton per load with one-man economy. Carries up to 1200 lbs. on sturdy 4-in. flatbed platform.
- ✓ Operator rides on back step. Has handy steering lever for easy spotting. Reverse power for back-up. No operator fatigue.
- ✓ Travels  $1\frac{1}{2}$  to 4 m.p.h. forward and reverse. 4 h.p. gas engine takes full load up 20% ramps.
- ✓ Quickly pays for itself in bigger loads, more trips per day. Interchangeable 10 cu. ft. bucket extends economies to all materials-handling jobs.



### SEND NOW

To: KWIK-MIX CO., Dept. BW, Port Washington, Wisconsin  
Please send facts on Moto-Bug with ☐ flat-bed platform ☐ 10 cu. ft. bucket

NAME.....TITLE.....

COMPANY.....

STREET.....

CITY.....STATE.....

(\*Kwikling Subsidiary KM032)

# New Joint for Panel Assembly

Many new structural uses have been opened to war-born honeycomb panels by discovery of a simple locking device.

Toward the end of the war, a new structural material, honeycomb, got lots of attention—particularly from plane designers who wanted strength and stiffness without paying the penalty of weight.

• **Sponsors**—The material was developed jointly by United States Plywood Corp. and Glenn L. Martin Co. Essentially, it is a panel made of a high-strength ply or skins joined to a core structure resembling a honeycomb. The outer skin can be aluminum or plywood or practically any sheet material; the core, a resin-impregnated paper or cotton, or a metal foil, formed to the proper hexagonal shape.

The stuff wasn't cheap during the war (because of limited production). But the backers expected a big demand for it after the war, for uses ranging from chemical containers to doors. Even prefabricated buildings. Two basic problems stood in the way: (1) There was no simple way to attach panels together; and (2) there was no simple way to get a weatherproof joint.

• **The Clincher**—This week, U. S. Plywood was feeling fine: It has the new attachment method, and that method makes weatherproofing easy. What's more, the joining device is inexpensive, easy to install, and practically foolproof.

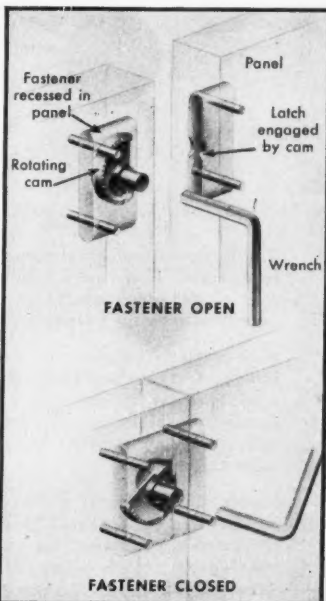
The fastener (lower picture) was developed by Simmons Fastener Corp., Albany, N. Y., working independently. On the strength of the new device, plus the known advantages of honeycomb, U. S. Plywood has landed \$1-million in government contracts for honeycomb panels for arctic shelters. The company has other good business in prospect, too. It is sharing in the military-aircraft boom, and it figures to get substantial orders for a pressure-tight, lightweight container.

• **Advantages**—According to O. S. Tuttle, the company's chief engineer, the material offers high strength in relation to weight, and can be "tailored" to meet specific design conditions. Also, the honeycomb can be filled with insulation to hold heat in or keep cold out.

One engineer finds out about these properties. Tuttle thinks lots of new applications will open up. (For example, the company has a lightweight, portable, walk-in, refrigerator unit in the final stages of development.) As applications increase, honeycomb output can be boosted. Then the cost of the panels,



**STRONG BUT LIGHT:** Honeycomb panels are ideal for many types of construction, now that a way has been found to join them. The solution is this . . .



**FOOLPROOF LOCK:** Twist the wrench and a cam pulls parts together tightly

always a problem up to now, will drop.

• **Cam and Latch**—The fastener that has solved honeycomb's big problem is called Roto-Lock. Basically, it was developed from the principles that make the old-fashioned window latch work. A curved cam, when rotated, engages a

# "You *THINK* you know what Roebling makes..."

you stand there talking about Roebling wire cloth and screening. Well I tell you Roebling makes *electrical wire and cable*. I've bought them since before you were born!"

• • • • •

Of course both engineers are right. At its four big plants in and near Trenton, New Jersey, Roebling makes an extremely wide variety of wire and wire products . . . develops new types and achieves quality standards of highest efficiency and service economy to industry.



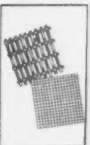
**ROUND - FLAT - SHAPED WIRE.** Every inch of Roebling high carbon wire is just like every other inch in gauge and temper, grain structure and finish. That means fewer rejects, fewer stoppages . . . production speed and lowered costs . . . It's available now!



**WIRE ROPE.** Roebling wire rope is a standard specification in many industrial fields. Among the large variety of types, Roebling Preformed "Blue Center" Steel Wire Rope is outstanding for easy handling, operating efficiency and economical service cost.



**ELECTRICAL WIRE - CABLE - MAGNET WIRE.** With 65 standard types to choose from, there's a Roebling Electrical Wire or Cable for all transmission, distribution and service requirements . . . For high-speed winding you'll find Roevar Magnet Wire is tops.



**WOVEN WIRE FABRIC.** Roebling industrial Screens range from finely woven Filter Cloths (including highly corrosion-resistant types) to largest Aggregate Screens. Roeflat Screen, a new development, has 75% more wearing surface . . . gives up to 90% more wear.

Investigate Roebling products and their possibility of helping production and cutting costs in your own operations. Write or call your nearest Roebling branch office. John A. Roebling's Sons Company, Trenton 2, New Jersey.

## ROEBLING

A CENTURY OF CONFIDENCE



BRANCH OFFICES: Atlanta, 934 Ave. N. • Boston, 51 Sleeper St. • Chicago, 5525 W. Roosevelt Rd. • Cleveland, 701 St. Clair Ave., N. E. • Denver, 1636 17th St. • Houston, 6216 Navigation Blvd. • Los Angeles, 216 S. Alameda St. • New York, 19 Rector St. • Philadelphia, 12 S. 12th St. • Pittsburgh, 855 W. North Ave. • Portland, Ore., 1032 N. W. 14th Ave. • San Francisco, 1740 17th St. • Seattle, 900 First Ave.

# CONCRETE CONSTRUCTION

protects you from...

**FIRE**—The worry that haunts every home owner and businessman. Last year more than 800,000 building fires killed nearly 12,000 people and destroyed or damaged 325,000 homes. Guard against fires by building with a firesafe material—concrete. *It can't burn!*

**STORMS**—Sturdy, long-lasting concrete homes, farm buildings, apartments, schools, hospitals and factories easily turn back wind, rain, hail and twisters. The principles of designing and building concrete that will render years of service under any conditions of use and exposure are very simple.

**RATS**—They destroy food and merchandise and spread many diseases. Rats cause an annual damage estimated at 2 billion dollars. You can reduce this destruction by using concrete foundations, walls and floors. Rats can't gnaw through concrete. Concrete construction is also termite- and decay-proof.

**HIGH UPKEEP**—Quality concrete is so durable that it requires fewer repairs and less maintenance. Concrete stretches your construction dollars. That's because moderate first cost ÷ low maintenance ÷ long life = *low annual cost*. That's important whether you build a home, a highway or a sewer.



## PORTLAND CEMENT ASSOCIATION

33 W. Grand Avenue, Chicago 10, Illinois

A national organization to improve and extend the uses of portland cement and concrete through scientific research and engineering field work

lip or latch. The cam is mounted in one panel; the latch in the other. As the cam is tightened up, it tends to pull the panels tightly together.

The cam can be turned in several ways: It can be fitted with a nut and turned with a wrench; or, if a six-sided hole is used (as in the picture), it can be turned with an "Allen" wrench, which is simply a six-sided bar that engages the six-sided hole in the cam.

• **Versatile**—Simmons says the fastener can make either right angle or flat joints. It recesses completely; it has no exposed parts; when closed, it can't be seen. On thin sheets, it can be mounted on the outside. It draws panels tightly together, under high tension.

If a weatherproof or waterproof seal is needed, a gasket can be put between the panels. The fastener, as it closes, brings pressure on the gasket.

• **No Skill Needed**—U. S. Plywood engineers figure that the honeycomb-and-fastener combination will be particularly helpful in applications (like the Army's arctic shelters) where unskilled labor is



**DEVELOPER:** O. S. Tuttle, U. S. Plywood's chief engineer, promotes new uses for honeycomb structural panels

used for assembly. Also, it permits easy dismantling of a structure.

According to Tuttle, a building with 1,000 sq. ft. of floor area made of these panels will weigh less than five tons complete, including foundations and frame. A 90-ft.-long by 20-ft.-wide building has been flown, knocked down and packaged, in a single C-54 plane. Such a building, with Roto-Lock fasteners, can be erected by four unskilled men in less than four hours.

• **Other Facings**—U. S. Plywood engineers' thinking is not confined to plywood—or metal-faced honeycomb. Right now they are experimenting with other facing materials (like their new rat-proof



## Build a coal mine in the sky!

**T**his particular mountain happens not to be coal. It's a monster pile of oyster shell, but it illustrates a principle most frequently applied to coal handling.

All over America, smart industrial managers are using this principle, and AMERICAN REVOLVER CRANES, to build coal mines in the sky. With this towering, gantry mounted crane they can build stockpiles as high as five story buildings. They can empty a whole train of cars without moving a car.

And when it comes to reloading—as the small picture shows—the big clamshell on the AMERICAN REVOLVER can fill a 50-ton “battleship” in a matter of minutes.

We don't know how you can beat this principle, if you're handling big quantities of bulk materials. It enables you to use hundreds of acres of ground space, if you want—and all the air above it. It gives you speed sufficient to load 100 cars or more per day. It gives you the economy of one-man operation . . . for handling millions of tons.

The AMERICAN REVOLVER is made in five basic models, with boom radii of 80 to 150 feet, lifting capacities of 55,000 to 150,000 lbs. Power may be steam, electric, gasoline, diesel or diesel-electric. For literature showing applications and mechanical data, mail the coupon below.

## American Hoist and DERRICK COMPANY

St. Paul 1, Minnesota

Plant No. 2: So. Kearny, N. J.

Sales Offices: NEW YORK • CHICAGO • PITTSBURGH



### American Hoist

and DERRICK COMPANY  
St. Paul 1, Minnesota

9402

● Please send me complete information on the American Revolver Crane for materials handling.

NAME

COMPANY

ADDRESS

26



# Read the advertisement on pages 60-61...

**"Does your business  
need more room to grow?"**

The advertisement on pages 60 and 61 is one of a series designed to acquaint you, as a management executive, with the advantages of planning your expansion around Standard Buildings by Luria.

**Does your business  
need more sales to grow?**

Created by Rickard and Company, this campaign has produced outstanding results for our client, the Luria Engineering Corporation. If you'd like to get the whole story—with the idea that this same quality of thinking might be profitably applied to your own advertising and sales problems—we'd be glad to hear from you.

**RICKARD and COMPANY**  
INCORPORATED

*Advertising*

330 West 42nd Street, New York 18, N.Y.

Protekwood) in an effort to lower costs. They are also working on a production setup that will simplify the making of the honeycomb panels, as another way to cut costs.

With a broadened range of honeycomb materials available at a reasonable cost, Tuttle looks for a big future for the panels.

• **Commercial Possibilities**—A typical prospect: shipping containers for less-than-carload shippers. Users would have the weight and strength advantages of honeycomb; they would also be able to knock down the containers for storage, or for return shipment. The containers can be made gas-tight by using gaskets between panels, and the knock-down feature allows them to be cleaned easily when they are used for food shipment. In another design, the bottom can be used as a pallet; when it is loaded, the sides and top can be locked into place.

Other futures for honeycomb include: truck-trailer bodies; refrigerator-car panels; military and civilian housing; furniture; office partitions; counter fronts; or practically any application where weight, strength, and stiffness are controlling factors.

• **Lock's Chances**—Roto-Lock also has a rosy future, aside from its use with honeycomb. The assembly device can be easily adapted to other types of struc-

tural materials. It would be a natural for instance, in furniture assembly, bulkheads, partitions. Although most Roto-Lock output today is going to U. S. Plywood, Simmons plans to push its use by other manufacturers.

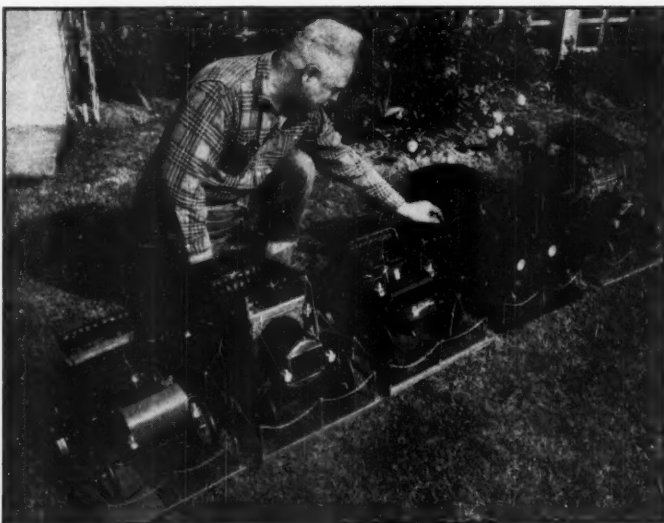
## ISOTOPES GAGE THICKNESS

General Electric Co. has put radioactive isotopes to work in a new thickness gage.

The gage uses a pin-point amount of strontium 90, which casts a stream of beta rays at material moving along a conveyor. The material—aluminum or tin foil, plastics, textiles, or rubber—absorbs some of the rays, lets others pass through it. The thicker the material, the fewer the rays that get through. The unabsorbed rays are collected in an ionization chamber where they create a voltage.

A secondary voltage is then applied to the gage. This cancels out the charge in the ionization chamber. The amount of voltage it takes to cancel the charge is a measure of the good's thickness.

The "drift" or inaccuracy is not more than 1% an hour after the gage warms up, which takes about 30 min. As a consequence, G. E. says the machine needn't be calibrated more than once every four hours.



## Model-Car Hobby Gets Into Big-Car Business

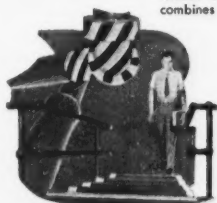
If you get too good at your hobby, watch out; it might turn into a business. Retired carpenter Arthur Salmons of Hynes, Calif., started making detailed miniatures of early model cars as a hobby. Then Los Angeles auto dealers got wind of his work, began ordering Salmons' models to use as window

displays. So far, Salmons has turned out about 40 miniatures. Costs range from \$25 to \$30—exclusive of labor. One model of an early Cadillac drew a price of \$150 from a Cadillac dealer. Built to one-sixth scale, the models are about 2 ft. long, weigh a little less than 5 lb.





**SHEET SEWING ROOM** at Dan River Mills. In this area of critical seeing tasks, Color Conditioning combines with good light to aid visibility, improve the quantity and quality of output, and reduce accidents.



**SAFETY!** Du Pont Safety Color Code "points up" hazardous areas . . . helps prevent injury. Colors and symbols quickly identify first aid and fire protection equipment.



**MORALE!** Pleasant surroundings give employees a "lift," pay off in better morale, better care of equipment. In cafeterias, restrooms, offices, etc., **COLOR CONDITIONING** imparts an agreeable, efficient atmosphere.



**SERVICE!** A Du Pont maintenance painting expert is ready to discuss **COLOR CONDITIONING** with you . . . show you how it can be applied to your buildings.

## DU PONT COLOR CONDITIONING works at Dan River Mills

DAN RIVER MILLS, Danville, Va., one of the world's largest textile mills, put color to work four years ago. Benefits were apparent in a short time. Employees said weave and spinning rooms "seemed cooler," that color lessened eyestrain on delicate work around machines, let them see what they were doing. Result: increased production, lower accident rate, better employee morale.

Color Conditioning can work for you . . . regardless of your business. You may make fine lace or heavy machinery, in an old or modern

building. Whatever the case, it pays to help employees see better, feel better, work better . . . through Du Pont Color Conditioning.

And Color Conditioning costs no more than ordinary maintenance painting . . . less in the long run. Mail coupon for full information. No obligation, naturally.



BETTER THINGS FOR BETTER LIVING . . .  
THROUGH CHEMISTRY

SEND FOR FREE  
32-PAGE BOOKLET



E. I. du Pont de Nemours & Co. (Inc.)  
Finishes Division  
Wilmington 98, Del.

Dept. SW 94

Please send me, without obligation, your 32-page book, "Color Conditioning for Industry."

Name

Title

Firm Name

Address



Photo by Thill-Murray

## *"How soon can I get up?"*

It's a wonderful moment, isn't it, when the doctor tells you that you are on the road to recovery? That's when you *really* begin to "sit up and take notice!"

Today, thanks to the doctor's use of the remarkable new *antibiotic drugs*, that moment comes sooner and with diminished suffering to thousands.

One of the newest and most versatile of these drugs is AUREOMYCIN—so named because of its golden color by the micro-biologists who developed

it at Lederle Laboratories Division of American Cyanamid Company.

AUREOMYCIN attacks a whole group of infections for which there has been no cure up to now.

AUREOMYCIN is a medical spearhead. It reaches out into a new and unconquered territory of disease, which has been untouched by either penicillin or streptomycin. It is another in a long list of Lederle achieve-

ments which are helping to safeguard the health of mankind.



*AMERICAN Cyanamid COMPANY*

30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

MOLDING THE FUTURE THROUGH CHEMISTRY

## PRODUCTION BRIEFS

Producing sponge iron by gaseous reduction of iron ore is described by the Bureau of Mines. The report covers foreign and domestic methods (including patented commercial ones) and experiments conducted by the bureau. Write to 4800 Forbes St., Pittsburgh 13.

Pfandler Co. is turning out larger glass-lined steel tanks. Its one-piece, glass-lined, chemical storage tanks have a capacity of 35,000 gal.

More high-test gasoline from poor grades of crude oil can be made by a new process that removes sulphur (which increases fuel consumption and corrodes engine parts). Esso chemists' method is to take out most of the sulphur content, prior to cracking, by adding hydrogen gas under relatively low pressure.

Chicago & North Western has opened a \$2-million "service station" near Chicago. It will speed up repairs and servicing of diesel locomotives.

Wigton-Abbott Corp., Plainfield, N. J., is precasting concrete foundations and sills in 20-ft. sections for its contracting jobs. First use: at Continental Can's new 700,000-sq.ft. plant near Pittsburgh.

U. S. Rubber's new lab for textile research and development, at Winnsboro, S. C., will carry on from Agriculture Dept.'s fundamental research. It will cost \$250,000, will begin operation in about nine months.

Commercial production of trimethylhexanol is under way at du Pont. It reacts with certain other organic compounds to give products that appear promising as synthetic lubricants, lubricant thinners, and softeners in plastic manufacture.

"Canning" turbo-jet aircraft engines for shipment to the Navy is United Aircraft's latest. The steel containers (about 12 ft. long) can be tossed overboard from a ship and floated ashore. They are built so that they can stand rough handling.

Technical sessions of the American Institute of Chemical Engineers will be held in Tulsa, May 8 to 11. They will cover production of chemicals from petroleum and natural gas, and the part that chemical engineering plays in oil production.

BUSINESS WEEK • Apr. 9, 1949



## Ditto eliminates 90% of all rewriting in office and factory routines



# DITTO

TRADE MARK REG. U.S. PAT. OFF.

Rewriting and retyping are regarded as normal parts of office and factory routines in many organizations. But in truth, this rewriting is wasteful, is unnecessary, results in many errors.

With Ditto One-Writing methods, writing is done ONCE. After that, the duplication is done instantaneously and without error by Ditto, not by a staff of paid hands. This change of method does not alter basic routines at all—yet almost always proves to be the greatest single saving ever put into operation.

Beyond that, Ditto is a DUPLICATOR. Ditto copies anything written, typed, printed or drawn, in one to four colors at once—forms, memos, house organs, specification sheets and the like.

Users' experience proves that Ditto saves from a few hundred dollars (more than the machine costs) to many thousands of dollars a year—but the greatest Ditto betterment is in speeded routines and reduced error. Check and mail the coupon for eye-opening data on Ditto's application to your own routines—now.

DITTO, INC., 620 S. Oakley Blvd., Chicago 12, Illinois  
In Canada: Ditto of Canada, Ltd., Toronto, Ontario

ELIMINATE WASTE 3 WAYS! GET FREE DITTO FORMS! MAIL THIS COUPON!

INCREASE  
PROFIT  
THESE 3 WAYS  
WITH  
DITTO...

- 1 Stop Rewriting and Retyping
- 2 Speed Operations
- 3 Cut Out Human Error

DITTO, Inc. 620 S. Oakley Blvd.  
Chicago 12, Ill.

Gentlemen: Without obligation please send me Free Ditto One-Writing Forms on the operations I have checked:

☐ Production ☐ Order-billing ☐ Payroll  
☐ Purchasing ☐ General Office Duplicating

My Name.....

Company.....

Address.....

City.....State.....

WRITE:

**'VIA  
P.I.E.'**

**ON THAT  
SHIPPING  
ORDER!**



**FASTEST BY LAND  
FREIGHT DELIVERY**

Between

{ SAN FRANCISCO } { CHICAGO }  
{ LOS ANGELES } and { ST. LOUIS }

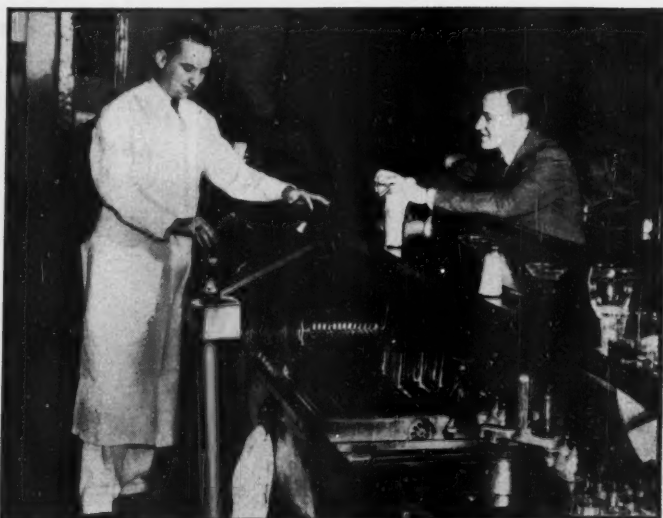
*Fastest to all intermediate points, too!*

SHIPPERS agree—it's P. I. E. for "days-sooner" freight delivery at low cost.

P. I. E.'s Yearbook and 1948 Annual Report is intended for freight shippers and receivers as well as stockholders and employees. A copy will be sent upon your request to our general offices.



## NEW PRODUCTS



Bar-man (above) sends empties through tube for quick disposal in basement (below)



### Bartenders' Morgue for "Dead Soldiers"

Used beverage bottles can be safely dropped from the bar or lunch counter to an automatic disposal unit in the cellar with Ken-O-Mat, a product of Kenwell, Inc., 130 Trowbridge St., Grand Rapids 2, Mich. The manufacturer says the unit will handle a bottle every three seconds, and do away with carting heavy cases of empties to the basement. Tests conducted by the firm

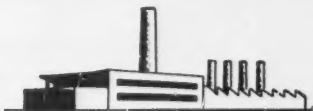
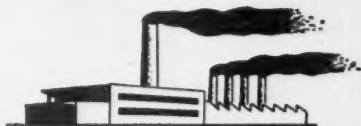
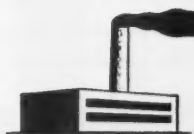
indicate that less than one bottle in a hundred is damaged.

Bottles are pushed through a spring-loaded flap on a plated-steel receptacle, then pass through curved flexible tubing that runs through the floorboards into the basement. A rubber-lined circular slow-down turret breaks the fall of the bottle.

The receiving unit has counter-

*going concern !...*  
*going concern !...*

*gone concern ...*



Firm X seemed to prosper from its very beginning. There was an immediate and continuing demand for its products. Its factory was well-directed, well-equipped, efficiently operated.

Then sales took a jump. Orders came pouring in, and the increased volume of business necessitated expansion. More modern machinery was added to the plant: . . . new modern methods of production were introduced.

Today Firm X is out of business. True, sales were soaring to an all-time high, but operating costs outstripped them . . . dragged the firm below the "break-even point" before manage-

ment had any indication they were going under. Inadequate office machines had produced inadequate records and statistics—had furnished too little information too late.

When you replace obsolete figuring and accounting equipment with modern Burroughs machines and methods, you get today's facts *today*. Why not talk it over with your local Burroughs man? He'll show you how fast, flexible and efficient Burroughs machines can produce the information and data you need—*on time*. Burroughs Adding Machine Company, Detroit 32, Michigan.

WHEREVER THERE'S BUSINESS THERE'S

**Burroughs**

THE MARK OF SUPERIORITY  
IN MODERN BUSINESS MACHINES







## Want to live in North Woods comfort all summer long?

Ask your Frigidaire Dealer to show you the  
only room air-conditioner powered by the simplest  
cold-making mechanism — the Meter-Miser



Why open your windows to dust, noise, and sticky summer heat, when it's so easy to have North Woods weather in your home or office? In a matter of minutes, this quiet-running Frigidaire Room Air Conditioner can be installed in almost any double-hung window — plugged into any standard A. C. outlet.

Even on summer's hottest day, you'll have all the fresh, clean, cool air you want, for this conditioner is powered by Frigidaire's Meter-Miser mechanism.

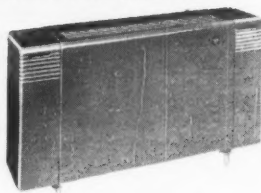
Famous for trouble-free, thrifty performance, the Meter-Miser carries its own, special 5-Year Warranty.

For cool summer comfort at your home or office, see your dependable Frigidaire Dealer now. He'll be glad to survey your needs without obligation. Find his name in Classified Phone Book under "Air Conditioning" or "Refrigeration Equipment." Or write Frigidaire Division of General Motors, Dayton 1, Ohio. (In Canada, Leaside 12, Ontario.)

## FRIGIDAIRE Room Air Conditioners



**Frigidaire Store-Type Conditioners.** Self-contained, large capacity air conditioning systems that can be installed in less than 8 sq. ft. of floor space. Also Frigidaire Central Systems to meet almost any air conditioning needs.

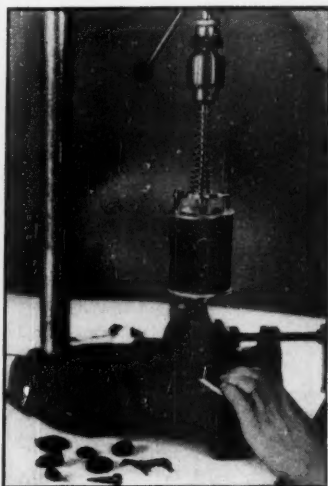


**Frigidaire Floor-Type Conditioner.** Large room conditioner in floor-type cabinet provides clean, cool, dehumidified air for larger rooms and offices. Uses remotely installed compressor — offers extremely quiet operation.

weighted troughs which automatically route bottles from the tubing to an unfilled rack. The position of troughs and racks makes unloading easy, and prevents bottles from cascading to the bottom rack. The Ken-O-Mat will rack about 600 empty bottles altogether.

The unit requires no maintenance, and may be kept clean by hosing down with water or by occasional scrubbing.

• Availability: immediate.



### Plastics Producer

Home workshops, schools, and small laboratories can now buy a small-scale injection-type molder for Bakelite styrene plastics at low cost. The equipment—made for short runs and experiments—eliminates expensive preparation.

The machine is designed for use with a drill press; it weighs 2 lb. and stands 10 in. high. The heating element plugs into a 110-125-v., a.c. outlet and is thermostatically controlled. Heat range: from 250 to 500F.

The equipment manufacturer also distributes the polystyrene molding materials and experimental lead dies in a variety of designs. The company is Plastics Development Corp., 225 Lafayette St., New York 12, N. Y.

Availability: immediate.

### X-Ray Level Indicator

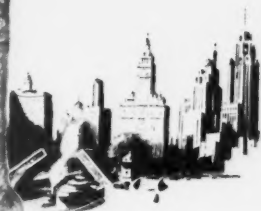
Measuring the level of corrosive liquid in a large tank is frequently rough on the indicating device. So Instruments, Inc., Tulsa, Okla., has developed a level indicator called the Gagetron that can be used with corrosive fluid.

Here's how it works: A small corrosion-resistant container filled with radium salts floats on the liquid inside the tank. Gamma rays given off by the radium salts are picked up by a Geiger-

## *The Stevens • Chicago*



...another  
famous hotel  
under  
Hilton  
operation



The largest hotel in the world is the friendly Stevens, overlooking beautiful Lake Michigan. Its superb facilities, conveniences and services are truly in keeping with high Hilton standards. The Mid-West's greatest Ice Show is featured regularly in the popular Boulevard Room.

Use our new Inter-Hotel Reservation Service or teletype your nearest Hilton Hotel

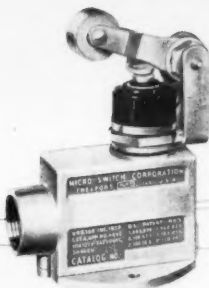


C. N. HILTON, PRESIDENT

EXECUTIVE OFFICE • THE STEVENS • CHICAGO 5, ILLINOIS

*In Chicago*  
THE STEVENS and  
THE PALMER HOUSE  
*In New York*  
THE PLAZA and THE ROOSEVELT  
*In Washington, D. C.*  
THE MAYFLOWER  
*In Los Angeles*  
THE TOWN HOUSE  
*In Dayton, Ohio*  
THE DAYTON BILTMORE  
*In El Paso, Lubbock, Texas*  
THE HILTON HOTEL  
*In Albuquerque, New Mexico*  
THE HILTON HOTEL  
*In Chihuahua, Old Mexico*  
THE PALACIO HILTON  
*In Bermuda*  
THE BERMUDIANA  
THE CASTLE HARBOUR  
THE ST. GEORGE  
*In San Juan, Puerto Rico*  
THE CARIBE HILTON  
(Opening late in 1949)

# Modernizing for economy? Consider this MICRO suggestion



## for rehabilitating present equipment!

Many an older machine springs back to new life... giving increased production and savings in operating costs by the installation of MICRO precision switches to make it automatic, to limit operation, to provide electrical interlocks or safety features.

The new up-to-date features so noticeable on new equipment that make management question the ability of the old are often yours by applying a bit of ingenuity—and one or more MICRO precision switches.

When modernizing your equipment, economy suggests that you have your plant men investigate how MICRO precision switches can put new life and new productivity into the equipment you already have!

For experienced aid in the use of MICRO precision switches, write MICRO SWITCH, Freeport, Illinois. Branch offices: Chicago, New York, Boston, Cleveland, Los Angeles. Sales Representatives: Portland, St. Louis, Dallas, Toronto.



Used to make equipment  
AUTOMATIC...for LIMIT CONTROL...for SAFETY  
...for ELECTRICAL INTERLOCKS

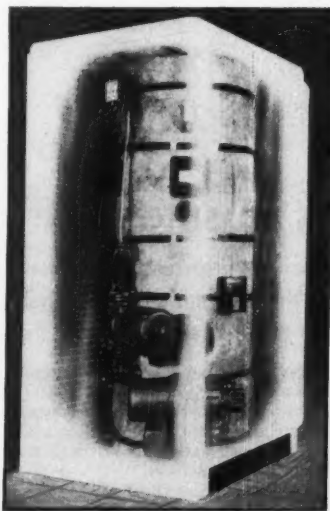


**MICRO...first name in precision switches**

Mueller counter mounted outside of the tank. As the level of the liquid varies, the radiation from the radium-filled float to the counter also varies. This, in turn, operates through electric impulses a paper-tape recorder that prints at the level of the liquid.

The Gagetron will also control its level. If a liquid flowing into a tank is to be stopped at some predetermined level, the radium-salts container is mounted in a fixed position at that point inside the tank. When the liquid reaches the container, it cuts the radiation of the gamma rays to the counter outside the tank. The counter can operate a valve that cuts off the flow. It doesn't matter what metal the tank is made of: Even lead won't interfere with the operation of the Gagetron. The unit is designed for operation from a 90-110-v., 50-60-cycle, a.c. power source.

• Availability: three weeks.



### Kitchen-Sized House Heater

York-Shipley, Inc., York, Pa., has designed a new oil-fired boiler unit for radiant-heating and hot-water applications. It's larger than some of the company's other models, but it still can be installed in the kitchen.

The boiler provides low-temperature water for radiant coils for panel heating of rooms; it also has a large tankless heater for domestic hot water. Although designed primarily for radiant panel heating, it may be used with all types of hot-water heating systems.

The complete heating plant is housed inside a cabinet which looks like a refrigerator; it is 36 in. wide, 65 in. high, and 32 in. deep.

• Availability: six weeks.



## Add hundreds of skilled workers without increasing your payroll

Need help with tool design... with toolmaking... with manufacturing? Taft-Peirce has the men to do these jobs for you—and many others besides. All are fully experienced—trained in the craftsmanship traditions of a company famous for precision tools, jigs, fixtures and contract machine work for over half a century.

Call on these T-P workmen, whenever you need extra help. They can produce for you what you need when you need it—*yet come off your payroll the moment the job is finished.*

If you would like to know more about Taft-Peirce facilities, write for the illustrated booklet, "Take It To Taft-Peirce." Address: The Taft-Peirce Manufacturing Company, Woonsocket, Rhode Island.



For Designing, Tooling, Contract Manufacturing  
**TAKE IT TO TAFT-PEIRCE**



## Get Out of that Ditch Mr. Executive

Are you digging for extra production facts... or more detailed sales costs? Certainly, more accurate... more current records are vital today. But why should you dig for them? Your staff will supply them — if their record-keeping system is up-to-date.

### NATIONAL WILL HELP YOUR STAFF HELP YOU

Features in record-keeping forms have been created by National to increase accuracy and speed. To make your record-keeping as modern as your production line, use National's Unit Accounting Systems which include:

- **Eye-Ease\* Paper** — combats eye-strain in all record-keeping.
- **Related records** grouped together — speeds up-posting and reference.
- **Special aids** for quick, accurate summaries.

Ask your office manager to call your stationer or write direct for our new Records Catalog. \$1.00 a copy.

\*Trade Mark Reg. U. S. Pat. Off.

## National Blank Book COMPANY

HOLYOKE, MASSACHUSETTS



# FINANCE

## A 10-Year Look at Growth in Savings

(In Millions of Dollars)

Dec. 31	In Savings & Loan Assns.	Deposits in Mutual Savings Banks	Time Deposits in Commercial Banks	* Total of All Savings
1939.....	\$4,060	\$10,481	\$14,865	\$55,645
1940.....	4,272	10,618	15,403	58,988
1941.....	4,652	10,490	15,523	63,849
1942.....	4,910	10,621	16,056	75,080
1943.....	4,494	11,707	19,001	94,004
1944.....	6,305	13,332	23,871	116,226
1945.....	7,365	15,332	29,929	135,948
1946.....	8,548	16,813	33,447	146,700
1947.....	9,753	17,744	34,694	155,234
1948.....	11,000	18,390	35,300	163,120

### Percentage Gains

	1948 vs. '47	1947 vs. '46	1948 vs. '45	1948 vs. '39
Savings & Loan Assns..	+12.8%	+14.1%	+49.4%	+170.9%
Savings Banks .....	+3.6	+5.5	+19.9	+75.5
Commercial Banks.....	+1.7	+3.7	+17.9	+137.5

\* Includes, besides figures given, accumulations in life insurance companies, postal savings, current redemption value of U. S. Savings Bonds outstanding.

## Fight for Savings Business

Savings and loan associations have grown faster than banks in recent years. But bankers charge they are misleading the public into believing they are the same as savings banks.

Everybody knows that personal savings have been bulging since the war. But not all of this national nestegg has been going into banks, bonds, or life insurance.

• **Leader**—In fact, the most spectacular gainers have been the savings and loan associations. They are out in front by a big margin (table).

From 1946 to 1948, public investment in savings and loan shares went up an average 14.3% a year. The runner-up, life insurance, showed an average growth in policy reserves of only 8.2%. Savings-bank deposits increased by an average of only 6.3%; commercial-bank time deposits, 4.6%; postal-savings deposits, 4.6%; and individual holdings of U. S. savings bonds, 3.5%.

• **Why**—The popularity of the savings and loan associations is due to:

(1) Heavy advertising and promotion campaigns; and

(2) A higher return on savings (2½% to 3½%, compared to the savings banks' 1½% to 2%).

• **Attack**—The banks aren't happy over the situation. In fact, they're hopping

mad. They say that the savings and loan growth is due in large part to "unfair" competition; that the savings and loan organizations have been falsely "trying to give the impression that they are banks of deposit."

The American Bankers Assn. maintains that the Federal Home Loan Bank Board, which supervises savings and loan associations, is just as guilty. Last week, ABA charged that the board is openly trying (1) to mislead the public about the character and functions of savings and loan associations, and (2) to do by regulation what Congress won't do by legislation.

• **Proposal**—What brought forth this blast was a set of new regulations over savings and loan associations proposed by the board. Under them, ABA charged, all members of the Federal Savings & Loan System could

(1) Call themselves "federal savings associations."

(2) Describe their shares as "savings accounts."

(3) Issue "certificates of deposit."

(4) Widen the field in which they



may make loans (under present rules, their loans must be secured either by their own shares or by first mortgages on homes or combination home-business properties).

(5) Open branch offices anywhere.

• **Demand**—ABA demanded that the board "withdraw . . . and redraft" its new code. By midweek, the board had not yet replied. But bankers don't have to wait long before they find out the result—one way or the other—of the protest. The new rules were published in the Mar. 11 issue of the Federal Register. Thus, they are scheduled to go into effect on Apr. 11 unless withdrawn as a result of ABA's protest.

Savings and loan circles were quick to label ABA's protest as an "unfair, unscrupulous, and concerted attack," motivated by jealousy. The New York State Savings & Loan League called it "an attempt by the banks to cover up their failure to furnish the people with the thrift and home service they need."

• **Basis**—Obviously, the ABA attack wasn't prompted entirely by altruism. Nevertheless there does appear to be a basis for its charges. For there is a fundamental difference in status between a man who has money in a savings account and one who owns savings and loan shares. And many of the savings and loan associations seem more and more anxious to gloss over that difference.

For instance, some savings and loan companies talk in their ads of "savings accounts." In such ads—and on the windows of their offices, too—the "and Loan" part of their titles often is in much smaller type than the "Federal Savings . . . Assn."

• **Differences**—Such actions undoubtedly tend to give the impression that a savings and loan investment is virtually the same thing as a bank savings account. Actually, however, only banks can accept "deposits." And, in the accepted sense of the word, only banks have "savings accounts." Money put into a savings and loan association is not a deposit; it's purely a purchase of the company's stock. Any "passbook" the association issues represents nothing but evidence of stock ownership.

Nor do savings and loan companies pay "interest" on their "savings accounts"—though their ads often say they "have never paid less than x% on savings accounts." Their payments to shareholders are purely dividends.

• **Withdrawal**—Another big difference: Savings and loan associations are not obliged to redeem their shares in cash on demand. It's true that banks, as well as savings and loan companies, can require written notice of intention to withdraw funds. But once notice has been given, the bank must pay cash in full if it doesn't want to be declared in-

**\$1500 Gown**  
A BARGAIN  
...compared to an oil-soaked rag

**\$150,000 Rag**

This breath-taking fashion creation may sound expensive . . . but you'll be staggered by the possible cost of a dirty waste rag!

The most expensive piece of cloth you ever pay for may be that oil-soaked rag thoughtlessly tossed in a corner.

The devastating fury of fire—caused by spontaneous combustion of waste materials—can snuff out your business life over night.

Safeguard your property. . . the Protectoseal System stops fires before they start. Investigate Protectoseal scientific fire prevention. Saves you money—saves your property! Protectoseal engineers will plan for your complete fire safety without charge.

**The PROTECTOSEAL Company**  
1960 S. Western Avenue • Chicago 8, Ill.

FREE: Analyze hidden hazards on your property with "Self-Checking Chart" and booklet of FIRE FACTS. Write today.

Stop fires before they start

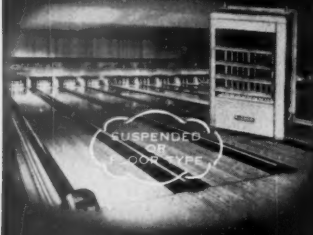
## Pittsburgh Chain-Link Fence

For complete protection of your property and equipment consult our chain-link fence experts. They will plan an economical installation and give you a free cost estimate. Write today!



PITTSBURGH STEEL COMPANY  
GRANT BUILDING, PITTSBURGH 30, PA.

## Automatic REZNOR gas fired unit heaters



TIME TO PLAN IS "NOW"

- Have heat "on time" next year.
- Get summer ventilation from big, quiet fan.
- Heaters installed more conveniently now.
- Avoid wintertime rush and delays.
- More Reznors in use than any other of similar type.
- Write for Catalog U-45.

REZNOR MANUFACTURING CO.

3 UNION ST. • MERCER, PENNA.

solvent. If it hasn't enough liquid funds to pay off, it must cash in some of its investments to get them.

But a savings and loan association has the right to pay such withdrawals only from cash receipts—or even from only a portion of such receipts. If there isn't enough to pay off all the shareholders who want their money, then the shareholders just have to wait.

• **Liquidity**—Because of this factor, banks with large savings accounts must maintain a high degree of liquidity. That means they must put their money into readily marketable investments—which offer comparatively low yields.

Savings and loan companies' investments are limited by present regulations to government bonds, securities of a Federal Home Loan Bank, loans against their own shares, or first mortgages. But because they aren't obliged to pay off on demand, they can afford to sink the major part of their funds in the comparatively nonliquid mortgages—and most of them do. That, by the way, explains how they can declare dividends at a higher rate than savings-bank interest; mortgages pay better than most savings-bank investments.

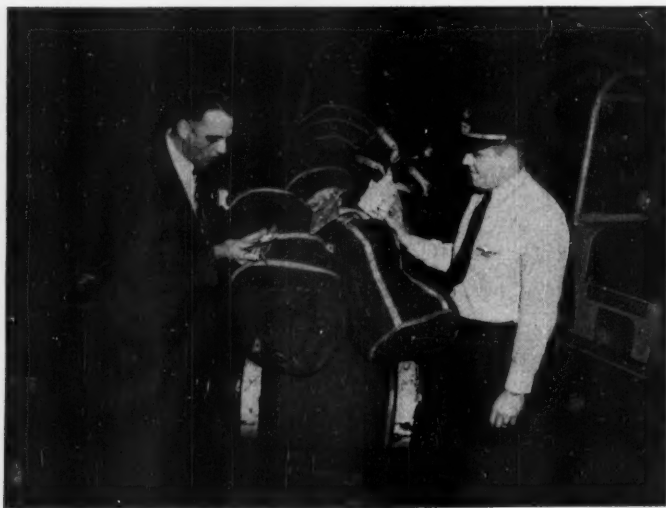
• **Insurance**—Savings and loan companies like to point to the fact that

their shareholders are insured up to \$5,000, just like savings-bank depositors. But there's a big difference here, too. If a certain depositor in a failed bank doesn't want to take an equal account in another, solvent bank, he can demand—and get—immediate cash. But if a shareholder in a failed savings and loan association isn't willing to accept equal shares in a solvent association, the best he can get is 10% in cash. He must take half of the remainder in noninterest-bearing debentures due within a year, the other half in similar debentures due within three years.

• **Acceptance**—According to ABA's protest to the Home Loan Bank Board last week, it has "never been opposed to a sound savings and loan system, soundly administered." It agrees that there's a "proper place in the financial structure of this country" for such a group, which "can make a substantial contribution to the growth and development of home ownership by people of moderate means."

But ABA doesn't think the public should be misled into believing that such associations are "deposit institutions"—at least, not as long as:

(1) They are "not required to main-



## Express Strike Slows Airborne Checks

The Railway Express strike in New York is giving bankers a headache. The Federal Reserve Bank of New York had been shipping checks by air express to other federal reserve banks and their branches to make funds available more quickly. Now the New York Federal has to use air freight (slower than air express) for shipments to nearby banks; checks bound for distant

banks go by air parcel post. Here checks in fire-resistant bags are loaded aboard a plane. Biggest day the New York Federal had before the strike was last Dec. 14, when it shipped by air about 1-million checks, weighing close to two tons. The bank estimates clearing the checks by air gave Federal Reserve Bank members an extra \$86-million a day during December.

tain the liquidity that savings banks are required to maintain"; and

(2) Holders of their shares "do not have the right under all circumstances to withdraw their funds on request."

## Oil Company to Give Insurance With Stock

Here's one way to take the risk out of risk capital. The recently formed American Oil Explorers, Inc., wants to issue stock to finance speculative oil exploration. If the Securities & Exchange Commission doesn't object, the company will hand over paid-up life insurance policies to stock buyers. The face value of each policy will equal the purchase price of the stock an investor purchases.

• **Money Back**—So even if the oil venture doesn't pan out, each stockholder will get his money back eventually—that is, his beneficiary will.

The company wants to offer 5-million shares at \$1 each. It expects to net \$4,337,500. About half of this would go to buy the insurance. The rest would be used to look for and develop oil fields.

• **Limitations**—You could get this insurance without medical examination. But there are a couple of limitations. You must be between 11 and 50 years old. And you have to buy at least \$250 and not more than \$2,000 worth of stock.

American Oil Explorers will buy the insurance from Standard Life & Accident Insurance Co., a small insurance underwriter with offices in Oklahoma City. The company will make a single-premium payment. Rates run from \$325.14 a \$1,000 for an 11-year-old to \$616.91 for a 50-year-old.

Tellier & Co., New York, will handle the issue, if it gets SEC clearance.

## Liquid Savings Down In 1948, Says SEC

Liquid savings of individual's dropped sharply last year, the Securities & Exchange Commission said this week. SEC figures that they came to only some \$4.9-billion in 1948. That's \$3.4-billion less than in 1947, and about the same as what individuals tucked away in liquid form as far back as 1940.

• **More in 1948**—Non-liquid savings, however, were a hefty \$30.4-billion. So altogether, SEC points out, individuals actually "added more to their total assets in 1948 than in 1947."

Liquid savings, as defined by the commission, include cash, bank deposits, government bonds and life insurance. Non-liquid savings are the

As we  
begin our  
next  
65 years



SIXTY-FIVE YEARS AGO (April 14, 1884) a group of men with uncommon vision and foresight, recognizing the growing need for Corporate Suretyship, launched an entirely new enterprise, the American Surety Company of New York—the first company formed in the United States to devote itself solely to the writing of Surety Bonds.

Since that date, Corporate Surety Bonds have become a vital and increasingly important part of modern business practice. Now, in 1949, the Company with its affiliates celebrates a period of service and progress that spans an average lifetime. During these years its service has expanded so that today, through agents and brokers throughout the United States, Canada, and Mexico, the American Surety Group offers a broad range of Casualty, Surety and Inland Marine insurance protection for industry and commerce, institutions, homes and individuals.

The American Surety Group symbolizes the spirit of free enterprise which has made our people the most independent and the *best protected* in the world.



### AMERICAN SURETY GROUP

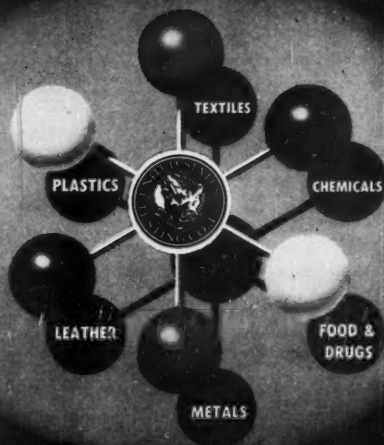
AMERICAN SURETY COMPANY  
NEW YORK CASUALTY COMPANY  
SURETY FIRE INSURANCE COMPANY

100 Broadway • New York 5, N. Y.

CANADIAN SURETY COMPANY  
COMPANIA MEXICANA DE GARANTIAS

**ANNOUNCING  
FURTHER OPPORTUNITIES FOR PRACTICAL  
APPLICATION OF ATOMIC ENERGY:**

**AVAILABLE TO INDUSTRY FOR APPLIED RESEARCH**



The United States Testing Company, Inc., brings to all branches of industry, the newest tool in research—the fruits of the investigations in atomic energy. A special laboratory, under the supervision of specially trained technicians, now employs Radioactive Isotopes in conducting researches never before possible—for every industrial field.

Here are a very few practical applications:

- Measurement of thickness, weight, and distribution of a coating such as ink, paint, dyes, and plastic film to one-millionth of an inch.
- Friction study—the measurement of material loss of ball bearings, piston rings, and other motor parts to 100-billionth of an ounce.
- Study of distribution and breakdown of lubricants alone or in conjunction with friction study of metals.
- Measurement of thickness of a coating on fabric, or yarn, indicating uniformity of distribution.
- Study of processes involved in molecular formation and exchanges; diffusion in liquids and solids; interaction among gases, liquids, and solids; catalytic action; solubility of materials; complex intermediary reactions.

We welcome correspondence and conferences with those in industry who would like to discuss the possible uses of Radioactive Isotopes in their particular fields of work.



**Radioactive Isotopes Laboratory**

**UNITED STATES TESTING COMPANY, INC.**

Established 1880

HOBOKEN, NEW JERSEY

PHILADELPHIA, PA. • BOSTON, MASS. • WORCESTER, MASS.  
CHICAGO, ILL. • NEW YORK, N. Y. • LOS ANGELES, CAL.

Member of American Council of Commercial Laboratories

building of new homes, purchases of durable consumer goods, and the growth in inventories of farmers and unincorporated businesses.

• **Liquid Savings**—Cash and bank deposits owned by individuals at the close of 1948, thinks SEC, added up to about \$130-billion—\$1.4-billion less than at the end of 1947. Currency holdings of individuals, it is estimated, were some \$24-billion. Another \$50-billion was accounted for by checking accounts. The remaining \$56-billion was in savings or time deposits.

Individuals' holdings of U. S. government bonds, SEC reports, rose some \$1.4-billion to around \$70-billion. And John and Mary Doe also added about \$3.5-billion to their equity in government insurance and pension reserves; \$3.4-billion in private insurance; \$1.1-billion in savings and loan associations (page 86); \$2.8-billion to their holdings of other non-government securities.

• **Non-Liquid Savings**—Some \$7.7-billion of last year's increase in non-liquid savings was via investment in new homes. And in 1948 individuals hiked their purchases of durable consumer goods to around \$22.7-billion (\$21-billion in 1947).

As might be guessed, the indebtedness of individuals didn't stand still during 1948. Mortgage debt, for example, rose some \$3.7-billion. Up another \$2.3-billion, also, was other consumer indebtedness.



## Heads American Optical

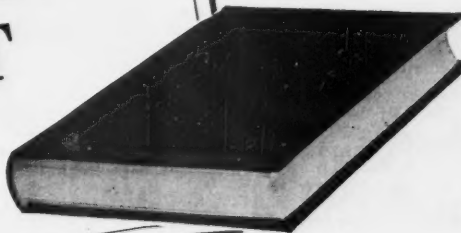
Trustees of American Optical Co., Southbridge, Mass., last week elected Walter A. Stewart to be president. Stewart has been a trustee and vice-president. He succeeds George B. Wells, who resigned after serving 12 years as president. Stewart joined American Optical in 1935.



# Announcing...

## The HOOVER COMMISSION REPORT

on the  
Organization of the Executive  
Branch of the Government



### NOW AVAILABLE IN A ONE VOLUME EDITION

#### The Sequence of the Reports

1. General Management of the Executive Branch
2. Budgeting and Accounting
3. Statistics
4. Office of General Services
5. Federal Supply Activities
6. Personnel Management
7. Foreign Affairs
8. National Security Organization
9. Treasury Department
10. Post Office
11. Department of Agriculture
12. Department of Interior
13. Department of Commerce
14. Department of Labor
15. Medical Services
16. Veterans' Affairs
17. Federal Business Enterprises
18. Regulatory Commissions
19. Social Security, Education and Indians
20. Indians
21. Federal State Relations
22. Federal Research Activities
23. Overseas Administration



THIS new, one-volume edition of the Hoover Commission Report brings you the Commission's recommendations in concise form. It contains the full text of the approved reports, *eliminating* the extensive dissents, abstentions, and "further views" expressed by individual members of the Commission. This procedure has been followed on the assumption that these individual arguments are of interest only to the specialist. The general reader who desires only the essence of the Commission's reports and recommendations will find this one-volume edition completely satisfactory.

### You may examine this volume on approval

McGraw-Hill Book Company, Inc., 330 W. 42d St., N. Y., 18, N. Y.  
Please send me the HOOVER COMMISSION REPORT, one-volume edition, for ten days' examination on approval. I understand that I am to be billed for approximately \$3.50, should I decide to keep the book. Otherwise, I will return the book at the end of the ten-day examination period.

Name .....  
Address .....  
City ..... Zone ..... State .....  
Company .....  
Position ..... BW-4-9-49



## LOOK AT THIS "STOLPER STORY"

**IT SIMPLIFIES  
YOUR PRODUCTION PROBLEMS  
IN SHEET METAL  
PARTS and ASSEMBLIES**

It's a story of how STOLPER can take over your production of sheet metal parts and assemblies . . . and relieve you of your sheet metal procurement problems. STOLPER will make your parts and assemblies the way you specify them (to your own blueprints and specifications), when you want them, and at a cost profitable to you.

WRITE TODAY FOR YOUR FREE  
COPY OF "THE STOLPER STORY"

**STOLPER STEEL  
PRODUCTS CORP.**

3220 W. FOND DU LAC AVE., MILWAUKEE 10, WIS.

Custom-Built Tanks, Housings, Enclosures, Cabinets, Hoods, Guards, and Fenders . . . and other Sheet Metal Parts and Assemblies

Use STOLPER as  
YOUR SHEET METAL DEPARTMENT

THERE'S NO CARBON  
PAPER LIKE  
"PARK LANE"!

THAT'S BECAUSE  
IT'S MADE BY  
ROYTYPE!

Non-curl! Non-slip! Non-smudge!  
That's Park Lane, the carbon paper  
that is specially treated to give  
better copies, cleaner copies.

Get in a supply today! See the  
difference in the quality of the work  
turned out in your office!

Made by Roytype, division of  
Royal Typewriter Company, Inc.—  
world's largest manufacturer of  
typewriters!



THERE'S A  
ROYTYPE  
PRODUCT  
FOR EVERY  
BUSINESS  
MACHINE  
NEED!

## Bigger Yields

Life-insurance companies' investments are paying off a little better—but not enough to lower rates.

The yield on life-insurance companies' investments went up last year instead of down—the first time in 20 years that has happened.

True, figures that insurance men were studying last week showed that the rise was slight—but at least it pushed the average rate of return above the 1947 record low of 2.88%. Last year's average was 2.96%, the highest yield since 1945. And the Institute of Life Insurance has even more cheering news for the life-insurance policy holders: Its researchers think the same factors that caused the 1948 upturn "may be expected to have a further effect on the earning rate this year."

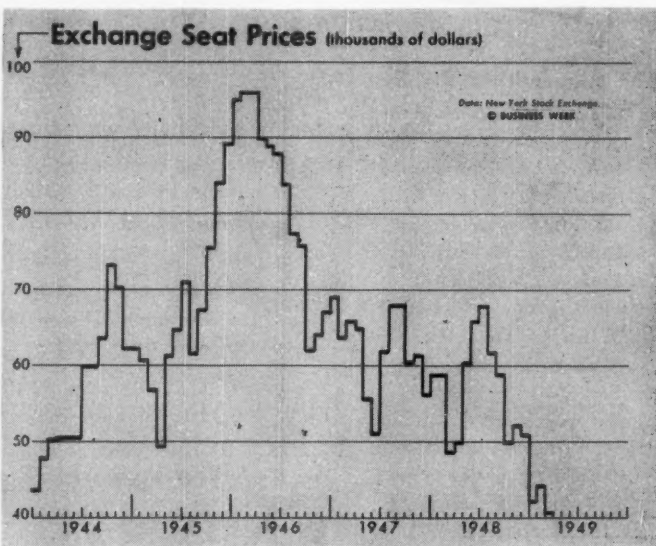
• **Major Factors**—Part of the rise is due, of course, to the slight firming of interest rates generally. But these other two important factors were also at work:

**NEW CHANNELS** of investment. Many of these have been developed by the life companies in recent years—such as the purchase of income-producing real estate (stores, office buildings, industrial plants), rebuilding the volume and profits of policy-loan departments, construction of rental-housing developments.

• **A SHIFT** in investment portfolios. This produced a drop of about \$3-billion in insurance companies' government bond holdings (with a maximum yield of only 2.50%) and a large rise in holdings of better-earning investments.

The upturn in average yield has encouraged life-insurance men, but they hope the trend will go a lot further. They point out that the 1948 rate is still about 25% below the average 4.10% earnings rate of the 1930's, that it is little better than half the 5.25% rate earned in 1925.

• **Meaning**—This has meant a vast difference in the dollar earnings of the life companies. If last year's percentage yield had been at the rate of the 1930's, insurance companies would have earned \$500-million more than they actually



## Seat Prices Show Brokers' Dim View of Future

The price of a seat on the New York Stock Exchange is an index of what brokers think of the long-range outlook for volume of stock and bond sales. At the end of March, their opinion of that long-range outlook had been pessimistic (chart). The index was at a five-year low, under the level of early 1944. But this week a seat changed hands

at \$47,000, up \$7,000 from the last previous sale. This was still quite a contrast with the record high of \$625,000, for which a seat sold early in 1929. But it was quite a bit above the bottom of \$17,000, which was reached in the spring of 1942, about the time of the fall of Bataan. That was a record low since 1897.

did in 1948. Obviously, such low yields in recent years have raised the cost of life insurance to policyholders, though not so much as you might expect. The institute says that the improvement in mortality among policyholders has somewhat offset the decline in yield.

As for last year's recovery, the trade figures it isn't big enough to warrant any hopes for a drop in life-insurance rates—in the near future.

## FINANCE BRIEFS

State sales tax collections hit a new high of \$1.5-billion in 1948. The Federation of Tax Administrators says that's 19% higher than 1947, nearly thrice the pre-war level.

**American Research & Development Corp.**, leading "venture capital" company (BW—Feb. 19'49, p6), will soon offer publicly 165,500 shares of new common. Price: \$25 a share.

**Recent drop in bank loans** is causing some shading of interest rates by Manhattan banks.

**Playboy Motor Car Corp.**, whose first try at financing went sour (BW—Oct. 30'48, p106), is making another stab. It has asked SEC to O.K. a plan to raise about \$3-million by issuing 1-million Class A common shares (par \$3), 1-million Class B shares (par \$5). New York's Aetna Securities Corp. would handle the issue.

**New York State** has just retired the last of \$45-million World War I bonus bonds sold about 25 years ago. Their cost in interest alone: some \$25-million.

**Distillers** still need a lot of new money. Schenley Industries has just sold \$75-million of 20-year, 3.2% notes direct to a life-insurance group; National Distillers may soon sell publicly another \$40-million of bonds.

**The Missouri-Kansas-Texas** says it will soon offer a plan for funding interest arrears on the railroad's \$13-million of income bonds. Arrears now come to some \$5-million, or \$35 per \$100 bond.

**Bell Telephone of Pennsylvania** is asking underwriters to bid on \$25-million new 25-year debentures.

**The Chesapeake & Ohio** has just sold 46,700 shares of Erie common for some \$607,000, or \$13 a share. The holding was carried at a book value of \$2,886,000; the C.&O. stood the loss for tax purposes.



## Mr. Dillthrop Goes to the Fair

An easy and potentially profitable trip, Mr. D! For at the great international mart in Toronto you can buy or sell to your heart's content. You may meet buyers from Burma or sellers from Saskatchewan. You see, the Canadian International Trade Fair is conducted for business men from every part of the planet.

You'll find the world's largest permanent exhibition buildings at the Fair grounds, with facilities that spell c-o-n-v-e-n-i-e-n-c-e. Interpreters and guides. Special communication facilities. Stenographic service. Private club rooms and restaurants.

The Bank of Montreal, Canada's first bank, can smooth the way for your visit to the Fair. We cordially invite you to get in

touch with any of our U. S. offices in New York, Chicago, or San Francisco, or the Superintendent, Business Development Department in Montreal. Ask any questions which may come to mind . . . such things as availability of accommodation, trade classifications, countries represented . . . and we'll either have the answers, or take steps to obtain them for you.

\* \* \*

### WITH OUR COMPLIMENTS

When you ask for Fair information at one of our U. S. offices or the Business Development Department in Montreal, request Booklet B-5. Titled CANADA TODAY, it's a free, 100-page, photo-filled story of our people, our industries, and our resources.



.....

**"MY BANK"**

TO A MILLION CANADIANS

**B of M**

RESOURCES EXCEED  
\$2,000,000,000

Promoting  
U. S. - Canadian  
Trade  
for 130 Years

## BANK OF MONTREAL

*Canada's First Bank*

*In Canada since 1817 . . . In U. S. since 1839*

HEAD OFFICE: MONTREAL

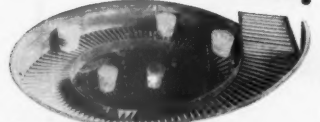
U. S. NEW YORK . . . . . 64 Wall Street  
CHICAGO . . . . . 27 S. La Salle Street  
SAN FRANCISCO . . . . . 333 California Street

LONDON City Office . . . . . 47 Threadneedle St., E. C. 2  
West End Office . . . . . 9 Waterloo Place, S. W. 1

*Over 500 Branches Across Canada*

.....

what's your problem?



**...you'll solve  
it best with  
Conveyers**

For the efficient, continuous flow handling of materials, conveyers have no equal. No other type of material-handling equipment can be made to cope with the complex problems which are being solved today by well-planned conveyer systems.

Mathews Engineers are specialists in the design and application of Gravity and Power Conveyers and special conveying machinery, which keep materials moving in some twenty-five classes of industry throughout the United States and Canada.

WRITE TODAY FOR NEW 32-PAGE  
CATALOG NO. 848.



**MATHEWS CONVEYERS**  
GENERAL OFFICES

Mathews Conveyer Company  
ELLWOOD CITY, PENNSYLVANIA

**PACIFIC COAST DIVISION**

Mathews Conveyer Company West Coast  
SAN CARLOS, CALIFORNIA

**CANADIAN DIVISION**

Mathews Conveyer Company, Ltd.  
PORT HOPE, ONTARIO

Engineering Offices or Sales Agencies in Principal  
American and Canadian Cities

# THE MARKETS

## 1 Many spot commodity prices have come down sharply in the last 15 months . . .

(Percent Change Since January, 1948)

Tallow . . . . . - 78%	Cocoa . . . . . - 56%	Print cloth . . . . . - 50%
Burlap . . . . . - 28%	Hides . . . . . - 23%	Wool . . . . . - 23%
Steel scrap . . . . . - 19%	Rubber . . . . . - 18%	Flaxseed . . . . . - 14%
Cotton . . . . . - 9%	Silk . . . . . + 4%	Lead . . . . . + 7%
Copper . . . . . + 9%	Tin . . . . . + 10%	Zinc . . . . . + 35%

## 2 But most are still well above levels of the last days of OPA . . .

(Percent Change Since June, 1946)

Tallow . . . . . - 44%	Cocoa . . . . . + 116%	Print cloth . . . . . + 24%
Burlap . . . . . + 37%	Hides . . . . . + 57%	Wool . . . . . + 10%
Steel scrap . . . . . + 68%	Rubber . . . . . - 16%	Flaxseed . . . . . + 82%
Cotton . . . . . + 5%	Silk . . . . . - 12%	Lead . . . . . + 96%
Copper . . . . . + 65%	Tin . . . . . + 98%	Zinc . . . . . + 72%

## 3 Most are a good bit higher than they were before Pearl Harbor . . .

(Percent Change Since November, 1941)

Tallow . . . . . - 53%	Cocoa . . . . . + 114%	Print cloth . . . . . + 72%
Burlap . . . . . + 41%	Hides . . . . . + 57%	Wool . . . . . + 13%
Steel scrap . . . . . + 68%	Rubber . . . . . - 16%	Flaxseed . . . . . + 225%
Cotton . . . . . + 88%	Silk . . . . . - 12%	Lead . . . . . + 171%
Copper . . . . . + 97%	Tin . . . . . + 98%	Zinc . . . . . + 74%

## 4 And they still are very high in terms of what they were before the European war . . .

(Percent Change Since August, 1939)

Tallow . . . . . + 12%	Cocoa . . . . . + 343%	Print cloth . . . . . + 200%
Burlap . . . . . + 184%	Hides . . . . . + 130%	Wool . . . . . + 71%
Steel scrap . . . . . + 127%	Rubber . . . . . + 12%	Flaxseed . . . . . + 293%
Cotton . . . . . + 276%	Silk . . . . . + 4%	Lead . . . . . + 244%
Copper . . . . . + 123%	Tin . . . . . + 114%	Zinc . . . . . + 313%

# Industrial Materials Cost Less

The drop in industrial raw material prices is getting to the point where it makes a real difference in business costs. And to anyone unlucky enough to be sitting on big inventories it's a real threat to profits.

• **Start**—The first significant breaks in commodity prices came in the early part of 1948. Today, most commodities—with the notable exception of the metals—are selling anywhere from 9% to 78% below their January, 1948, level (table).

The metals kept on climbing through most of last year. But in the past few weeks they, too, have started to go. Lead has dropped from a peak of 21½¢ a lb. to 16¢. Zinc has come down from 17½¢ to 15¢. And the copper market is holding its breath.

Basic steel prices still are holding steady, but warehousemen are shading prices on some steel products. The market for steel scrap, traditional barometer of the industry, has broken wide open.

• **BLS Index**—The Bureau of Labor Statistics index of industrial raw material prices now is down to 245.6. At its peak, on Dec. 24, 1947, it hit 296.7. The drop figures out to 17%. And at its present level the index is lower than it has been at any time since the big jump that followed the removal of OPA controls in 1946.

The BLS index of 28 commodity prices (which includes imported materials and farm and food products as well as industrial raw materials) is down to about 252. At its peak, Nov. 29, 1947,

it hit 359.1. That's a drop of about 30%.

The big question for businessmen now is: Where will prices go from here?

There aren't any pat answers to that one. But you may get some ideas by comparing present prices with the old OPA ceilings and with prewar levels.

- **Whither Prices?**—Nobody expects prices to go back to prewar. Historically, you never get all the effects of a serious inflation out of the price system. Some of it always grows into the permanent structure.

Hence, you can assume tentatively that the level of long-run stability for most commodities lies somewhere between present prices and the old OPA ceilings. If that's true, then many prices already are over a large part of their deflation.

You have to remember, too, that there will be changes in the relation of particular commodities to the general price level. A high-employment, high-income economy takes a lot of metals, for instance. Theoretically at least, you could expect the metals to show smaller drops in the long run than most other commodities.

## MARGIN AFTERMATH

When the Federal Reserve Board cut margin requirements last week (BW—Apr. 24, 1949, p. 90), Wall Street's bears grumbled that it would make no difference to stock prices. For the short run anyhow, they were right.

- **Two-Day Special**—The "lower-margins rally" that got under way last week played out in only two days. Since then, profit-taking has been whittling away the gains in most issues. And this week the market was drifting along in the aimless way that has become painfully familiar in the past three years.

This reaction was a disappointment to most traders, but not a surprise. Lower margin requirements by themselves don't make a market. And neither does another factor that has been getting a lot of publicity lately—common stocks priced for less than their equity in the net current assets of the company.

Stocks selling below their theoretical liquidation value always look like fantastic bargains. But traders don't buy stocks for liquidation. They buy for going-concern value. And a real up-trend in stock prices can't get under way until traders feel that (1) the business outlook is at least reasonably bright; and (2) current stock prices are "cheap" in comparison with earnings and dividend expectations.

- **No Confidence**—Today traders don't feel any confidence on either point. Thus, the "bargains" in terms of current assets are no bargains to them.

Wall Street's pessimism has many causes. Here are a few:

- **Heavy, high-cost inventories** and their vulnerability to drops in commodity prices;

- **Frozen-in costs** and high break-even points, and the effect they would have on profits if sales volume drops much;

- **Signs indicating** that the postwar capital-expansion boom has passed its peak (page 26);

- **Appearance of buyers' markets** suddenly in more and more lines that seemed years behind demand;

- **Attitude of the Administration** on taxes, controls, anti-trust, and other business matters.

And after all, you can't expect Wall Street to be happily unconcerned when businessmen generally are uncertain and wary. Only last week, a steel-scraper man came out of a meeting in Chicago and reported tersely: "There are more bears in there than any place east of Yellowstone Park."

## NEW ISSUES STILL SLOW

The corporate new issues market has become so quiet lately you can almost hear each share drop. Flotations slated for sale this week came to only \$30-million or so. Last week they were but slightly higher.

- **Pricing Problem**—But the drop in activity to such levels hasn't been the only thing that has worried the underwriting trade lately. Some recent offerings haven't been priced realistically. And this has slowed up sale to investors.

Since then, however, the syndicates handling two prominent slow deals have disbanded. This has permitted the development of a "free market" for the issues in question (\$20-million Columbia Gas System deb. 3s, 1974 and \$10-million Wisconsin Electric Power 2½s, 1979). They are moving out into circulation satisfactorily now—but at levels under the original offering price.

- **Private Placements**—Sales of new issues via the private-placement route are continuing at a rapid pace. This week four such seller-to-buyer deals involving the sale of some \$165-million of new bonds and notes were announced.

## Security Price Averages

	This Week	Week Ago	Month Ago	Year Ago
<b>Stocks</b>				
Industrial	146.9	149.7	146.5	150.3
Railroad	40.0	40.5	39.8	45.5
Utility	71.3	71.6	70.2	68.7
<b>Bonds</b>				
Industrial	97.2	97.5	97.1	94.3
Railroad	81.4	81.4	84.8	82.6
Utility	95.5	95.7	95.2	96.5

Data: Standard & Poor's Corp.



**YOU'LL NEED  
A FACTORY  
50,000 FEET  
HIGH**

Physics has a new dimension; materials and products must now perform satisfactorily at stratospheric heights. Conditions under which they are tested and made must, therefore, match those found at the 50,000-foot level.

Lectrodryers are helping forward-looking manufacturers obtain the extreme DRYness encountered at such heights. Laboratories for stratospheric testing, pilot plants for process development, full-size production plants and storerooms—all are being served by Lectrodryers, DRYing air, gases and organic liquids.

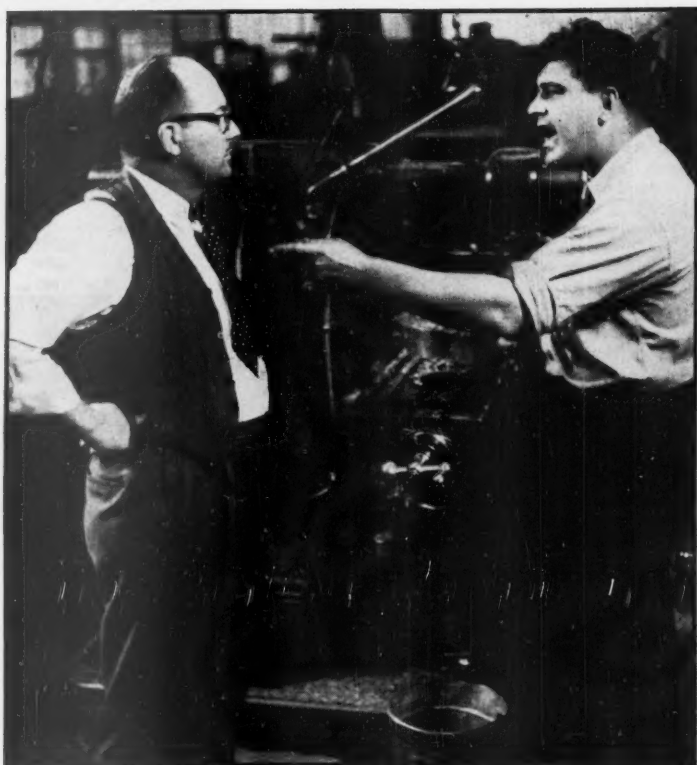
If your processes are being slowed down on humid days, if materials are caking and clogging conveyors, surround them with DRY air. If reactions are going wrong because of the presence of undesirable moisture, get rid of it with Lectrodryers. Our engineers will gladly help you choose the equipment you need.

**BULLETIN 216 SHOWS HOW** other companies have modernized their plants with Lectrodryers. For a copy, write Pittsburgh Lectrodryer Corporation, 300 32nd Street, Pittsburgh 30, Pennsylvania.

**LECTRODRYER**  
REGISTERED TRADEMARK U.S. PAT. OFF.



# LABOR



**1** "Damn it," the irate employee at ATF, Inc., yells at his foreman in the familiar way a grievance is initiated almost everywhere, "I'm getting a bum deal"



**6** "It happens out there all the time," the foreman reports to his superior—and how well management knows it. In getting supervisors to handle grievances effectively, ATF had the same problem that most employers have experienced. That's why the company sought a better way to make each foreman a human-relations expert



**2** "And furthermore . . .," he goes on, while his foreman, who knows there must be an answer, is tongue-tied

## Handling the Grievance



**7** ATF thinks it has found the answer in role playing: a development in psychotherapy which the company aims at its specific training objectives

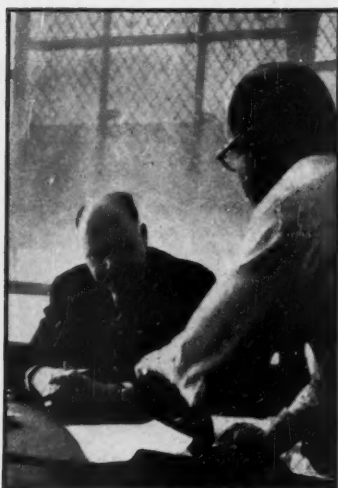




3 "For umpteen years . . .," the complaint continues, while the foreman just stands there and takes it from the worker



4 "Now, whatcha gonna do about it?" the employee demands. Thrown for a loss, the foreman is silent



5 "How do I handle this hot potato?" the foreman asks his labor relations chief at the Poughkeepsie plant

## e Grievance Problem—by "Role Playing"



8 Role playing is a modern version of childhood's play-acting—with a serious purpose. Here the foreman acts out the role of the irate employee, pouring it on a younger foreman, who handles his part as he would do it in the shop



9 Still acting as the aggrieved employee, the foreman tries the routine on a supervisor who is an old hand. Unabashed, the old-timer mobilizes his experience, lays his argument on the line like the capable veteran he is (TURN TO PAGE 98)

**I F IT'S MOLDED PLASTIC...**



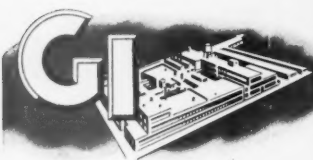
*from Gears to  
Gift Boxes*

**HAVE YOUR DESIGN  
*Cost-checked*  
BY GENERAL INDUSTRIES**

When you send your blueprints to General Industries for a confidential, pre-molding *cost check*, you automatically insure yourself against excessive molding costs . . . against production interruptions due to design changes . . . against field failure of your finished products.

General Industries' capable engineers—backed by long years of practical plastics experience—thoroughly analyze every detail of the proposed part. Any resulting recommendations or suggestions for design modification are based on sound, economical molding practices and a comprehensive knowledge of plastic materials.

There is no charge for this *cost-check* service. The only obligation is ours—to help you. Whether you are designing new products for tomorrow, or further improving those of today, send your blueprints for a convincing demonstration of *cost-checking* at work.



**THE GENERAL  
INDUSTRIES CO.**

DEPARTMENT Y

ELYRIA, OHIO

**ROLE PLAYING** (continued from page 97)



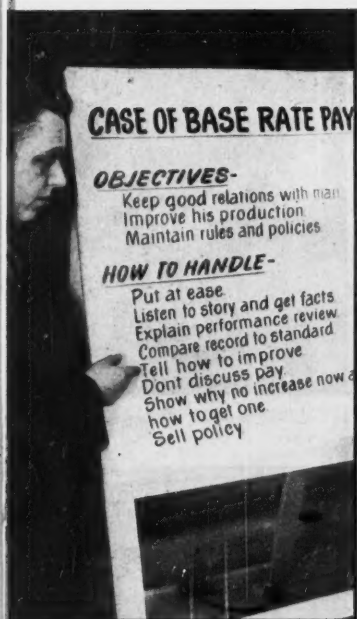
**10** The old-timer and younger foreman hear a recorded playback of their exchange with the griever. They are critics of each other and of themselves. This gives them a chance to stand off and check their own performance, see what they did wrong



**12** The old-timer comes out pretty well; experience usually gives him an edge in play-acting shop problems



**13** The younger man hasn't satisfied himself; but he understands better where he went off the track with his arguments

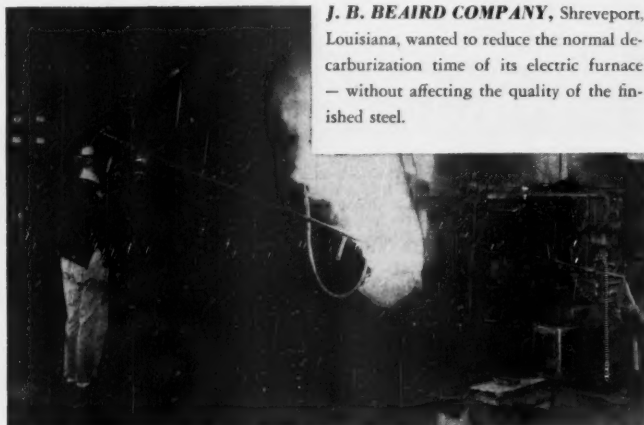


**11** How they have handled their parts is measured against company standards for best ways to settle grievances



**14** A discussion, led by training experts, clarifies what good practice is, how it's best achieved (TURN TO PAGE 100)

# Oxygen cuts electric furnace decarburization time ... saves power



**J. B. BEAIRD COMPANY**, Shreveport, Louisiana, wanted to reduce the normal decarburization time of its electric furnace — without affecting the quality of the finished steel.

**George Bellew**, Airco Technical Sales Representative, was called in to determine what effect the introduction of oxygen in the molten bath would have on refining time. In each of the three trial "heats" oxygen was run just below the slag metal interface.

Several of the advantages of using oxygen in these "heats" were: greater alloy recovery . . . reduced time and

power consumption . . . electrode cost per ton lowered . . . elimination of ore handling and storage . . . increased melting rate . . . increased bath temperatures . . . faster carbon elimination.

To date the J. B. Beaird Company has conducted tests on 200 more "heats" — and is highly pleased with the results.

The use of oxygen for decarburization has now become standard practice.

## TECHNICAL SALES — ANOTHER AIRCO PLUS-VALUE FOR CUSTOMERS

To assure its customers of high efficiency in all applications of the Oxy-acetylene flame or electric arc, Air Reduction has available the broad, practical experience of its nationwide Technical Sales Division personnel. The collective experience and knowledge of these specialists has helped thousands to a more effective use of Airco processes and products. Ask about this Airco "Plus-Value" service today. Write your nearest Airco office. (In Texas: Magnolia Airco Gas Products Company . . . On West Coast: Air Reduction Pacific Company).



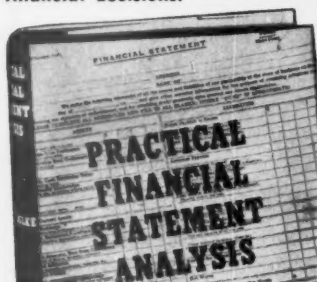
# AIR REDUCTION

Offices in Principal Cities

Headquarters for Oxygen, Acetylene and Other Gases . . . Carbide . . . Gas Cutting Machines . . . Gas Welding Apparatus and Supplies . . . Arc Welders, Electrodes and Accessories

## Get the FACTS from financial statement figures!

Employ these accurate techniques of statement analysis to "certify" important financial decisions.



By **ROY A. FOULKE**  
Vice-President  
Dun and Bradstreet, Inc.

619 pages • 6 x 9 • \$6.50

This valuable manual is the key to sounder financial statement analysis. It outlines techniques that enable you to get the vital, important facts from the figures you have on hand. It discusses, in detail, the comparative and internal analysis of balance sheets, profit and loss statements, surplus accounts, sales analysis of small business. Included are a host of valuable forms and schedules, comparative figures and statements, and important ratio charts.

### Helpful in a Hundred Ways

This book enables executives to check up on the efficiency of their own practices, investors to ascertain the condition of the business in which they hold stock, credit men to better judge the limit of their creditors, bankers to judge the true strength of a business or corporation with greater insight.

### Consult this manual for practical aid . . .

- Antecedent information important in large corporations
- Implication of slow trade payments
- Contrast between small and large businesses
- Evolution in the use of current ratio
- Effect of seasonal operations on current liabilities
- Important features of long-term securities
- Manipulation of profit figures
- Explanation of capital surplus
- Effect of writing-off and writing-up depreciable assets.

**FREE 10 DAY EXAMINATION**  
MAIL COUPON BELOW

McGraw-Hill Book Co., Inc.  
330 W. 42nd Street, N. Y. C. 18

Send me Foulke's Practical Financial Statement Analysis for 10 days' examination on approval. In 10 days I will send \$6.50 plus few cents postage, or return book post-paid.\*

Name .....

Address .....

City and State .....

Company .....

Position .....

\*SAVE: We pay mailing costs if you send cash with order. Same return privilege.

Position .....

100

## ROLE PLAYING (continued from page 99)



- 15 "I get it," the foreman who was stymied says, after he sees how it's done and has had a chance to act it out before a panel of fellow foremen



- 16 "Well, what about it?" the griever wants to know. "What gives?"



- 17 Now, sure of himself at last, the foreman can handle man and problem



- 18 He gets his point across, and the employee understands him and company policy. Role playing has made this supervisor confident and competent



## Act It, Learn It

That's ATF's system for training supervisors to handle grievances on the spot. Result: quick settlement, better output.

Something new is being added to many foreman training programs. It's a grown-up form of "let's pretend," known technically as role playing.

• **New Use**—In role playing, supervisors act out a situation involving a human relations problem. They have no script, no rehearsal.

The basic principles are centuries old. Companies have used them for years to teach salesmanship. Psychotherapists are employing them to good purpose. But it took role playing a long time to move out of industry's sales-training rooms into industrial-relations offices. The extension stems, in part, from studies made by Alex Bavelas of the Massachusetts Institute of Technology. And it's a result, too, of industry's search for an answer to an important question: How can we keep individual grievances from building up into labor-relations problems?

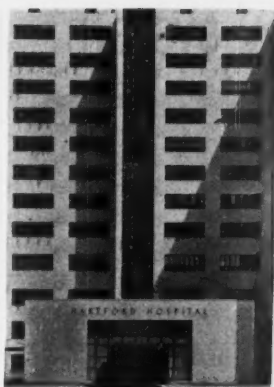
• **Do and Learn**—The best solution that has yet been found is a supervisory staff that knows how to handle workers. But training such a staff isn't at all easy; standard techniques—manuals, conferences, discussion groups—don't do the whole job. To get the right sort of social skill, the foreman often has to have practice, and a lot of it. That's where role playing comes in.

Learning by doing is a good way to learn. But if a supervisor does his practicing in daily plant-floor contacts with workers, a mistake can be terribly costly. So, instead, the foreman-trainees practice on each other by role playing.

• **ATF Experiment**—One of the first companies to see what role playing could do for employee relations was ATF, Inc., of Elizabeth, N. J., which owns American Type Founders and several other companies. President Thomas Roy Jones wasn't entirely satisfied with results of supervisory-training work in ATF subsidiaries. Mostly, these training programs were based on case discussions at conferences. But, Jones complained, supervisors weren't putting into practice the principles and procedures worked out in these conferences. Too many grievances were wasting higher management's time when the man who could—and should—settle them was the foreman.

Top officials got their heads together, decided to add controlled practice—or role playing—to supervisory training in ATF companies.

Allen H. Tyler, training adviser at



A fine Example of a Modern Hospital, the Hartford Hospital, Hartford, Connecticut, Air Conditioning Equipment by Buffalo Forge Company; Coolidge, Shepley, Bulfinch and Abbott—Architects; George A. Fuller Co.—Contractors; Hollis French, Mechanical Engineer.

# Air of Efficiency

"Capacity to produce desired results"—Webster

**P**RESENT-DAY hospital design recognizes the very real necessity of adequate air conditioning. Thus, the progressive planning of the Hartford Hospital included "Buffalo" fans, pumps and air conditioning units as part of its far-sighted program.

This dependable air conditioning keeps the vital fourth-floor operating rooms free of dust, dirt, draft and noise. "Buffalo" Air Control does an important job on the thirteenth floor, too—where the Central Sterile Supply Room and Intravenous Solutions Manufacture Department is located. And on the ground floor, "Buffalo" equipment dissipates food odors from the Main Kitchen and keeps personnel comfortable, alert and efficient.

Hospitals are daily finding new uses for air conditioning. Removing explosive anesthesia gases—aiding therapy—improving the germ-killing effectiveness of ultra violet lamps—are but a few.

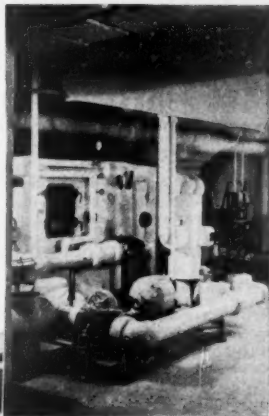
Whether you are concerned with hospital, office building or plant, don't leave "Buffalo" Air Conditioning out of the plans. Contact your "Buffalo" representative for the Air of Efficiency your building needs.

### BUFFALO FORGE COMPANY

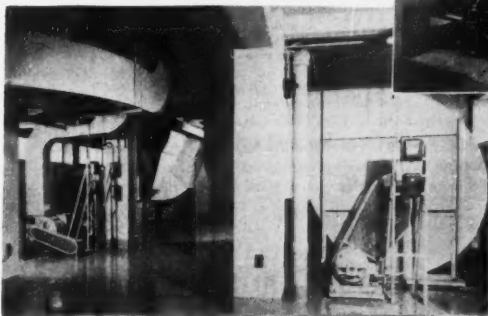
458 BROADWAY BUFFALO, N. Y.

Canadian Blower & Forge Co., Ltd.,  
Kitchener, Ont.

Branch Offices in all Principal Cities



"Buffalo" Air conditioning Units like the one above, and "Buffalo" Pumps, provide clean air automatically and exactly controlled as to desired humidity and temperature.



Quiet-running "Buffalo" Limit-Load Fans supply the vital air for processing and distributing in the Hartford Hospital—on continuous service, day and night.

# "Buffalo"

**FIRST FOR FANS**



# ....a new, fast copy system



The BW Process makes it possible for you to produce sharp, clear, black-on-white prints directly from your originals without transcribing, cutting stencils, making carbons or other costly intermediate steps. All that is required to effect this tremendous economy in time and materials is the use of inexpensive translucent paper for the originals. From these, Bruning Whiteprints can be produced in a matter of seconds, on any Bruning Whiteprinter. Any girl in your office can do it.

## **BRUNING** **BW WHITEPRINTERS** have many advantages:

**Many BW uses.** Orders, invoices, reports, financial statements, sales presentations, letters, legal forms, engineering drawings, and other documents . . . written, typed, printed or drawn . . . can be duplicated in seconds, without the chance of error in transcription, and with all original signatures and notations faithfully reproduced.

**Prints in seconds.** When you want copies in a hurry there is no time lost making transcriptions, cutting stencils, or other intermediate steps. BW Prints are produced in seconds, dry and ready for instant use.

**A wide variety of BW Prints.** BW ma-

chines make prints from post card size up to 42 inches wide and of any length. BW Paper is available in light, medium and card weights, white or tinted, in rolls or cut sheets of many sizes.

**Very clean.** There are no messy carbons or printing inks to handle . . . no harmful or smelly chemicals. The BW Process gives you perfect prints in one fast operation . . . virtually automatically.

**Inexpensive.** You save money with the BW Process. The small cost of BW Prints is returned to you many times over in the time and labor saved.



**Send today for full information** about this amazing new office copying system. Ask us for our file of literature and samples. You will see for yourself that the BW Process is the modern answer to fast copying and greater economies. No obligation.

## **Charles Bruning Company, Inc.**

4702-30 West Montrose Avenue, Chicago 41, Ill.

New York • Chicago • Los Angeles • and 11 other cities

**Other Bruning products you should know about—**Drafting Machines  
Sensitized Papers & Cloth • Tracing Papers • Erasing Machines • Drafting Room  
Furniture • Slide Rules • Surveying Instruments • and many other products.

ATF's home office, set up the company's present program. He used the Bavelas studies as a basis, borrowed some procedures tested in Owens-Corning Fiberglas Corp.'s experiences with role playing.

• **In Operation**—Here's how the ATF plan works:

(1) The staff-training department calls a meeting of the foremen to set up principles for handling a certain type of case.

(2) A foreman is briefed to be the "worker" in the role playing—usually from actual case histories of labor disputes.

(3) Two other foremen, one at a time, are called on to hear the "worker's" grievance, and deal with it.

(4) Recordings of the discussions are played back, and criticized by the two foremen-players first, then in open discussion.

(5) The group then decides how the grievance should have been handled. If there's time, a foreman and "worker" play the roles that way.

• **A Lot of Foolishness?**—ATF set up its first role-playing program at its subsidiary, Frederick Hart & Co., at Poughkeepsie, N. Y. Supervisors weren't sure they liked the idea, at first. They got the jitters when they had to act a scene. They said it was a lot of foolishness. But, after the second or third session, they changed their minds. The men began to get a kick out of the two-hour sessions, held on company time. Instead of hanging back, they began to volunteer for roles; a competitive spirit made role-playing sessions livelier—and more profitable.

• **Results**—About that time, ATF began to note a pickup in on-the-spot handling of grievances. It noticed other things too: Quality and quantity of production rose; supervisors began to speak up at meetings with other management men.

That was about a year ago. According to Tyler, the improvement has continued. He's thoroughly sold on role playing; so are Jones and the other company executives. And even the die-hards among the ATF supervisors have withdrawn their adverse criticism of the program and now admit its value.

• **Slow Going**—Last to agree was a tough old-timer—an A-1 machine man who ran his battery of machines and crew of men as equals. The first time this foreman played, he had to handle a charge of carelessness: A "worker" had dropped a wrench into a machine, damaging it. The foreman fired him in five acrid sentences.

Then the old-timer watched while another supervisor took over the same role. The new man reprimanded the "worker" and showed him the right way to handle a wrench. After the playback, the old-timer still insisted he was right:

A dope who damaged a machine ought to be fired. But the group voted him down; it decided a reprimand and short layoff would be enough penalty for a first offense. At this point, the old-timer relented a little—maybe he had been too rough. Since then, Tyler reports, the foreman has mended his ways somewhat. Tyler credits the role playing with the change.

• **On the Spot**—Tyler believes the great value of role playing is this: Supervisors learn, by practice, to think on their feet. They never know what the "worker" will say next, hence they learn to make quick decisions under realistic pressure and anxiety. Then, too, they learn by seeing how others cope with situations. And—when they act an employee's part—they put themselves in the place of a worker and see his point of view.

Other companies have had much the same experience. Role playing is firmly set in training programs at Owens-Corning, Armstrong Cork Co., General Foods Corp., Sharp & Dohme, Inc., Esso Standard Oil, and elsewhere. The Michigan Industrial Training Council recommends it to its member-training directors. The American Society of Training Directors recently gave considerable time at a convention in Cleveland to a demonstration of the technique.

• **Union, Too**—At least one union has adopted role playing. The Pulp, Sulphite & Paper Mill Workers (A.F.L.) uses it to teach shop stewards how to handle workers who fancy they have a grievance, and how to put grievances effectively to foremen.

Role playing is now being studied at Cornell and Harvard, as well as at M.I.T. The latter has just issued Bavelas' latest report—"Role Playing and Management Training"—in booklet form. It was published by the Dept. of Economics & Social Science, Massachusetts Institute of Technology, Cambridge, Mass.

## BLS' Clague Clarifies: C.-of-L. Won't Drop 10%

Now is the critical warm-up period for fourth-round wage negotiations. Management and labor leaders are alert for any data that bear on the relationship of wages and living costs.

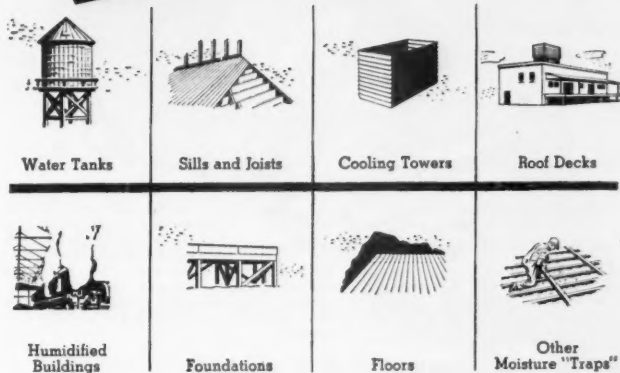
That's why a published statement last week by Ewan Clague, director of the Bureau of Labor Statistics, created a stir in the midst of union-management pre-negotiating maneuvers. Clague was quoted as predicting a 10% drop in the cost of living during 1949.

• **False Alarm**—But while management and union analysts got to work on Clague's estimate, the BLS head said he had been "misunderstood." He doesn't really think that prices at retail "will

## Where Wood Needs Protection from DECAY and TERMITES

**WOLMANIZED  
PRESSURE  
TREATED LUMBER**

... lasts 3 to 5 times longer



Here are six common conditions where **WOLMANIZED Pressure-Treated Lumber** provides protection from decay and termites:

1. Where excessive ground moisture, rain or thaws cause early decay failures.
2. Where wood near the ground is open to termite attacks.
3. Where wood is in contact with damp concrete or masonry.
4. Where steam and vapor from industrial processes promote wood decay.
5. Where walls, floors, ceilings are subject to condensation from refrigeration.
6. Where wood is exposed to moisture in artificially humidified buildings.

Investigations by qualified technologists prove that on installations where decay and termites ordinarily shorten lumber life, **WOLMANIZED Pressure-Treated Lumber** lasts *Three to Five Times Longer* than untreated wood.

Such lasting protection is assured because penetrating, preservative solutions are forced, by vacuum-pressure treatment, deeply into the wood fibers of **WOLMANIZED Lumber**. And, **WOLMANIZED Lumber** is clean, odorless, paintable, non-corrosive, non-leaching and glueable. Only **WOLMANIZED Lumber** offers all these extra advantages.

### YOU'LL PROFIT BY GETTING THIS INFORMATIVE BOOKLET

Get all the facts and cost-saving figures on **WOLMANIZED Lumber**. See why it offers you the best protection available against wood decay and termites. Write for this valuable booklet today.



## AMERICAN LUMBER & TREATING COMPANY



General Offices: 332 South Michigan Avenue, Chicago 4, Illinois

Branch Offices: Baltimore, Boston, Jacksonville, Fla., Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Washington, D. C.

*Where good weights*

**REMEMBERING**

616  
767?  
677?

**RECORDING**

**WEIGHT TICKET**

312

*go bad!*

You take a chance as long as human eyes must read . . . human minds must remember . . . and human hands must write weight figures! Human errors at weighing points directly affect your costs, profits and customer relations. Stop these losses now with PRINTED weights—today's better way to weigh!

# PRINTWEIGH STOPS HUMAN ERRORS

Toledo PRINTWEIGH Scales give you big, clear printed figures . . . accurate printed records of each weighing operation . . . positive assurance that your weight facts are right every time! Prints on thick tickets . . . on large or small sheets . . . on strips . . . with extra copies. Split-second speed! Keeps weight records right in receiving, shipping, stock rooms, batching and many other weighing operations for industry. Write for bulletin 2021. Toledo Scale Company, Toledo 12, Ohio.



**TOLEDO**  
**HEADQUARTERS FOR SCALES**

come down anything like 10% from present levels" by the end of 1949. The decline, if any, will be much less, he said.

Here's his explanation:

"The impression which I intended to convey was that consumers' retail prices after World War II would not decline as sharply or as far as they did in 1920-21, when there was a drop of 20%. I indicated . . . that 10% during the next few years might be the outside limit of decline down from the 1948 peak. In fact, I emphasized that rents and certain other components of the consumers' price index might rise, thus counteracting possible further declines in food and other items."

• **The Original**—In his original statement, Clague said that food prices should continue downward, unless the international situation or weather buoyed them up. The remarks were made in a speech to the International Assn. of Public Employment Services, at Philadelphia.

## Coal Warm-Up

Operators getting their negotiating team ready to take on Lewis. Southerners plan a tough attitude.

Bargaining lines are tightening in the coal industry: Contract talks start next month. The big issue will be a United Mine Workers demand for a shorter work day—probably a six-hour day, portal to portal—without loss of pay. Operators will balk at such a demand as they will balk at any other proposal that would push up production costs in the face of a slackening market.

The result may be the toughest coal negotiations since 1933—and another coal strike.

• **Groundwork Talks**—The Southern Coal Producers' Assn. met this week to lay the groundwork for 1949 contract talks with John L. Lewis' union negotiators. The group, headed by Joseph E. Moody, is made up of operators whose mines turn out a third of the nation's bituminous coal. And it's often the organization that does the hardest bargaining with U.M.W.

The southern group went over many of the questions it expects to meet during contract talks. One big one: How united will coal operators be when they face Lewis at the bargaining table?

Soft-coal operators are generally grouped into four major outfits: the Southern Coal Producers' Assn.; the Eastern Bituminous Coal Assn.; a loose-knit organization of northern mine operators; and the "captive mines" operated by steel companies. In recent years,

Charles O'Neill was ex officio spokesman for all four in bargaining sessions; he also helped coordinate—as much as possible—their programs and negotiating policies. But O'Neill died several weeks ago. So far, his job as soft-coal spokesman is wide open.

• **Southern View**—The southern operators would like to draft the 1949 bargaining program for the industry. Their candidate for chief negotiator is their own Joseph E. Moody. They favor a tough policy toward U.M.W. Members of their association have felt the sharp pinch of slackened coal business. Recent changes in coal freight rates, they say, have hit them harder than they hit northern operators.

But, most of all, the southerners want a united bargaining front. So, according to Moody, the group is moving slowly; it wants to see "what other segments of the industry will go along with."

• **Softer Voice**—The high demand for steel in recent years has caused the bargaining representatives of "captive mines" to be less tough. They didn't want to risk a big coal shutdown that would cripple steel operations in a hurry. There are signs that the "captive" group may steer clear of joint bargaining this year. If so, it may settle through a compromise. Harry Moses, president of U.S. Steel's H. C. Frick Coke Co., is the man who usually deals with Lewis.

Other northern operators tend to line up with the "captive" group. Their representative this year will probably be George Love, president of the Pittsburgh Consolidation Coal Co.

• **Eastern Group**—J. William Wetter, of Philadelphia, president of Rockhill Coal Co., will succeed O'Neill as representative of the Eastern Bituminous Coal Assn.

Since he was closely associated with O'Neill in recent bargaining with Lewis, Wetter will move into one of the key bargaining seats in 1949 negotiations.

Representatives of the various soft-coal groups will get together at conferences in the next three weeks. The aim will be to try to find common ground on which to meet the union.

• **Union Ready**—Meanwhile, Thomas Kennedy, U.M.W. vice-president, shed further light on the top union demand—shorter hours. He told Pennsylvania miners this week that "hours should now be readjusted . . . to stabilize production, spread and equalize employment." Another speaker warned miners to "save your money and tighten up your belts" for a spring showdown.

• **Stockpile Prospects**—The recent two-week coal "memorial" stoppage cut about 16-million tons of soft coal out of a 67-million-ton stockpile, the National Coal Institute says. If production continues normal, the stockpile should be 85-million tons when contracts end on June 30.



## REFRESHER COURSE in production efficiency

Production zooms when men are refreshed and machines require less maintenance. Propellair ventilation helps keep employees vigorous . . . helps protect equipment from heat, condensation, dust.

### MOVE AIR WITH AIRCRAFT-WING FORCE

Like an aircraft-wing, the entire Propellair airflow blade works . . . not just the tip. Air flows uniformly over the full fan area. Both sides of the blades move air . . . the backs even more than the fronts. That's the extra efficiency you get when you put Propellairs to work refreshing your men and protecting your machines.

### TYPES FOR ALL YOUR NEEDS

A variety of Propellairs is shown. There are types for roofs, stacks, ducts, windows, walls . . . and with pedestals or stands. Sizes up to 60 inches in diameter. Capacities to 85,000 c.f.m. Discuss your ventilating problems with our experienced ventilating engineers, located in principal marketing areas. No obligation; your letterhead or post card will bring prompt response.



SKY-BLAST  
ROOF VENTILATOR



STAND-MOUNTED,  
ADJUSTABLE



DRUM-TYPE  
FOR DUCTS AND STACKS



EXTENDED SHAFT  
PROTECTS MOTOR



DRUMLESS  
FOR DUCTS AND STACKS



DIRECT-CONNECTED;  
MANY USES

# PROPELLAIR

DIVISION OF ROBBINS & MYERS, INC.

SPRINGFIELD 98 OHIO



This soft rubber printing roll makes all

**Elliott**  
ADDRESSING  
MACHINES

SILENT  
and  
SAFE  
to  
operate



Your metal address plate cabinets will hold twice as many addresses when you use Elliott non-metallic address cards.

And your metal address plate embossing machine can be sold because addresses are stenciled into Elliott address cards by any typist with any standard typewriter.

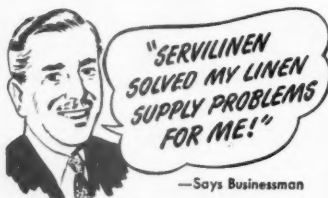
Write us, to learn of other savings in your Addressing Machine Department.

**Elliott** ADDRESSING  
MACHINE CO.

151-H Albany Street, Cambridge 39, Mass.

Established 1898 • Rated AAA-1

Our booklet describes 28 models, \$45 to \$18,000



—Says Businessman

**Yes, SERVILINEN is  
America's Finest Linen and  
Towel Rental Supply Service**

Servilinen provides sanitary towels, neat appearing uniforms and many other washable cotton items at an amazingly low rental basis. Servilinen improves customer and employee morale. Helps increase plant efficiency. No investment is necessary on your part. You pay only for the linens you use. Call your Servilinen supplier today. Let him show you how he can help your business prosper.



This campaign is being sponsored in the interests of the linen supply industry by

**M. SNOWER & COMPANY**

CHICAGO, ILLINOIS

Division of Opelika Textile Mills, Inc.,  
furnishers of washable service apparel  
and towels to the linen supply industry.



SIGNING UNITY PLAN, consolidation committee chairmen, A. R. Samson, seated left, of B. L. F. E., and T. J. Bulkley, of B. L. E., with aides, wind up negotiations on . . .

## One Big Union for Two?

If members approve, the rail brotherhoods will join forces as the Brotherhood of Locomotive Engineers & Firemen. It could mean stiffer bargaining with management on wages, grievances.

One of the oldest and politest jurisdictional disputes appears headed for settlement. It's the tiff between the 86-year-old Brotherhood of Locomotive Engineers, and the 75-year-old Brotherhood of Locomotive Firemen & Enginemen. Negotiators for the two have just worked out a plan to settle things peacefully—by merger.

And as important as any consolidation of the unions themselves would be the dumping into one pot of two old and wealthy insurance and welfare programs that, in a lot of ways, differ widely.

Details of the merger and ballots will go out to 190,000 members of the two brotherhoods within three weeks. A majority of the membership of both unions will have to O.K. the plan before it can go into effect.

• **Economics**—The plan won't be made public until the ballots are mailed. But chairmen of the two nine-man committees say it would save about \$5-million annually. Between \$500,000 and \$1-million would come from savings in salaries of rival organizers; each union now maintains about 120 men in the field.

The plan would also slash administrative costs, from top to bottom.

But the biggest advantage, as commit-

teemen see it, would come from having one brotherhood instead of two. This would be particularly important, they say, during dealings with railroads on wages, working conditions, etc. Committees from the two brotherhoods agree that past competition weakened the two at the bargaining table.

• **History**—Railroad enginemen have talked about consolidation for two decades. They got nowhere, though, until Apr. 1, 1946. Then Russ Walker, former Erie R.R. fireman and one-time secretary to president Dave Robertson of B.L.F.E., started things rolling. He banded together 62 other firemen and enginemen in Buffalo, organized a committee to plug for a merger.

Walker's Consolidation Committee of Enginemen recruited 400 members with little trouble. But from there on, it was strictly an uphill drag. A lot of members in both unions bitterly opposed a merger. To add to Walker's woes, left-wingers seeped into the committee and threatened to take over.

• **Success**—Resolutions calling for a merger lost 6 to 4 at a B.L.E. convention in March, 1947. The anti-merger faction thought that ended the fight. But late in a long day's session a 10-word resolution squeezed through, be-



cause few delegates, of the 258 on the floor, saw its importance. In effect, it said that if the B.L.F.E. would name a consolidation committee, the B.L.E. would, too. The anti-merger forces didn't realize, until too late, that the door to consolidation was ajar.

Soon the B.L.F.E. named its committee of nine to meet with a similar group from the B.L.E. The first formal session was held on Oct. 13, 1947. Since then, the 18 committee members have drawn \$30 pay per calendar day. There has been a lot of other expense, too—most of it for high-priced legal and actuarial advice on insurance plans. There's no doubt that these costs have smoothed the way for consolidation; they have added urgency to the deliberations.

• **Blocks**—Other than politics—and union jobs—the biggest road blocks were: (1) evaluating the property and assets of the two unions; and (2) deciding the status of the insurance programs after consolidation.

Each brotherhood claims property and assets estimated at \$3-million. Each wanted to be sure the other threw the full amount into the pot.

The talks on insurance were more technical. The B.L.E. insurance department says its fund comes to about \$18-million. The union's 80,000 members have equities in it which depend on how long they have been covered. The B.L.F.E. claims a fund of about \$32-million. Together, the two unions have about \$125-million in outstanding policies.

• **Proposals**—After more than a year of dickering—with insurance experts sitting in—committeemen hit on an acceptable plan to merge insurance companies. But to be on the safe side, they drew up an alternative arrangement that would let the two companies go on as separate enterprises.

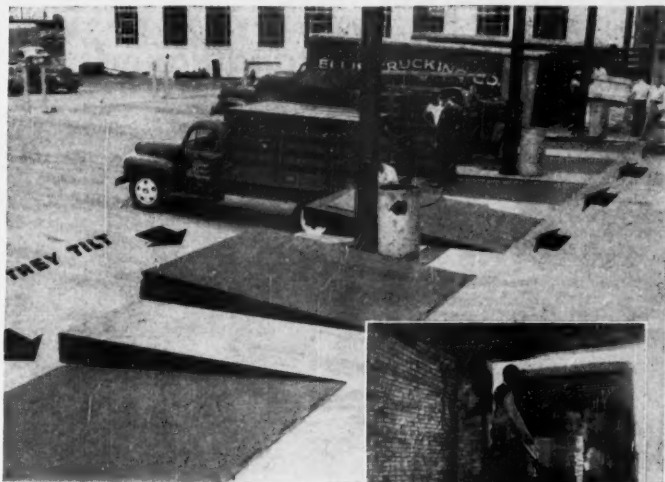
The merger won't affect contracts held by the two unions with all the major railroads.

• **Conventions**—If the joint membership approves the merger, each brotherhood will hold a special convention. Delegates will ratify the plan and name 100 delegates to a constitutional convention. This will set up a single new union—the Brotherhood of Locomotive Engineers & Firemen. And it will choose the union's first president. Percy Shield, first assistant Grand Chief Engineer of the B.L.E., now looks like the choice for the post.

Officers other than the presidents would stay on the job until the new union's first election—not less than one year nor more than three years after the constitutional convention.

Presidents of the two brotherhoods probably would be retired. They are Dave Robertson, head of B.L.F.E. for 27 years, and Alvanley Johnston, president of the B.L.E. for 24 years.

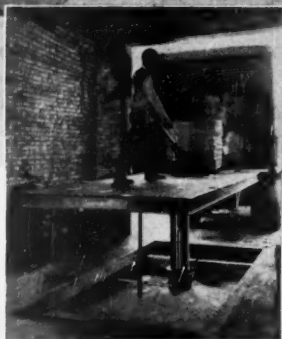
## LOADING TIME CUT IN HALF!



Tilting Loading Dock Ramps  
Operated by Hydraulic Lifts  
Stay Level with Truck Body.

# Cut Costs

## WITH WAYNE LOADING DOCK LIFTS



PLATFORM LOADING DOCK

**YOU CAN** save time and money with Wayne Hydraulic Leveling Ramps to adjust the level of the loading dock to the truck height. Over a level path, material on skids can be directly transported into the truck body. A variance of as much as 20 inches in the height of truck bodies may be instantly adjusted by merely turning a valve (or operation may be automatic). Users say: "Cuts loading time in half" . . . "As good as doubling dock facilities."



## SEND FOR FOLDER AND PRICES

Where space is too limited to expand normal dock facilities, you can accommodate more trucks in less time when you have Wayne Tilting Ramps. Use the coupon below to get all the facts on this new plan to cut costs at the loading dock. There is no obligation incurred.

THE WAYNE PUMP COMPANY, FORT WAYNE 4, INDIANA  
501 Tecumseh Street

Please send folder on time-saving Wayne loading for your protection Dock Lifts and give us some idea of the cost.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_



## NATIONWIDE SERVICE

AIR COMPRESSORS • CAR WASHERS • HOSE REELS • AIR SCALES • GASOLINE PUMPS

## Spot the worker here whose office is air conditioned



It's easy to spot him, of course. And it's just as easy, looking at the others, to imagine how hot and humid the day is. A day so sticky, so sweltering that everybody takes about twice as long as usual to do a routine job . . . your star salesman snaps at a customer . . . and some of your people just don't show up for work at all.

A condition like this is as costly as it is needless. The remedy is right at hand—Carrier Air Conditioning, a year-round money-saver and money-maker. In plants, offices and stores, Carrier Air Conditioning has proved its value many ways. It helps reduce absenteeism and turnover. It increases production and sales.

Now that competition is getting back to normal, air conditioning is practically a necessity. For the most efficient, most economical installation, call on Carrier. Pioneer and leader in the field, Carrier has the know-how to design and install a system best suited to your needs. For information, call your nearest Carrier representative, listed in the Classified Telephone Directory. Carrier Corporation, Syracuse, New York.



AIR CONDITIONING • REFRIGERATION

## LABOR BRIEFS

**Cement plants in the Lehigh Valley** have upped pay 7¢ to 9¢ an hour for A.F.L. workers. That's a 6½% fourth-round increase.

**Other wage hikes:** Hickok Mfg. Co. gave 4¢ an hour to A.F.L. employees; Eastern Air Lines, an average 9¢ raise to I.A.M. ground employees; Constructors Assn. of Western Pennsylvania, 3% (or 5¢ to 7½¢) to A.F.L. operating engineers and carpenters.

**"Overtime on overtime"** claims of 1,159 San Francisco dock workers were turned down last week by a California federal district court. That decision, if upheld by higher courts, may set a precedent for similar suits involving millions of dollars (BW—Oct.16'48,p108).

**C.I.O. steelworkers** want master contracts and uniform termination dates for 33 plants of American Can, 23 of Continental Can. The union also wants more pay, social insurance, pensions.

**Plastering work** has, "at most, only a remote effect on commerce." So NLRB refused to take jurisdiction in a case involving Walter J. Mentzer, a Pittsburgh contractor, with a \$33,000-a-year plastering business.

**A showdown is near** in the jurisdictional fight between C.I.O.'s Farm Equipment Workers and United Auto Workers. The leftist F.E.W. refuses to go into U.A.W., as ordered by C.I.O. Instead, the F.E.W. convention condemned U.A.W. "raiding," and C.I.O. "dictatorial" tactics. Now Philip Murray threatens to take "proper action" unless F.E.W. complies.

**What does seniority mean** when layoffs come? At the Goodyear plant in Akron—which has plant-wide seniority—it took 1,323 job transfers to lay off 255 employees. Reason: Men facing layoffs in one department can "bump" those with less seniority in other departments.

**U.A.W. (C.I.O.)** piled up a 4-to-1 victory over U.A.W. (A.F.L.) in auto workers' jurisdictional fight for new Chevrolet parts plant in Cleveland (BW—Feb. 26'49,p120).

**The Pictures**—Acme—21; © Fabian Bachrach—24, 90; Arnold Eagle—39 (bot.), 40 (top, cen.), 42; McGraw-Hill World News—113 (left), 116; Wide World—46, 76; Dick Wolters—96, 97, 98, 99, 100.

# To save dollars... in making contact photocopies



## You can start working wonders

—from a budget point of view—  
with your present contact  
photocopy machine. Start ...  
by simply using low-cost  
Kodagraph Contact Paper

... created by Kodak specifically  
for photocopying. It cuts production costs  
... and at the same  
time assures  
improved results.



## Economies... new to photocopying.

Kodagraph Contact Paper has wide  
latitude ... which eliminates the need for  
split-second timing in exposure and  
processing. And its great uniformity—from  
sheet to sheet, package  
to package—allows  
high-speed production  
without time-outs for  
trial and error testing.

## Kodagraph Contact Paper



**Results... new to photocopying.** Your office  
work is reproduced in dense photographic blacks,  
clean whites ... every detail sharp and clear.  
Furthermore, your Kodagraph Contact prints  
have a high-quality, Kodak-made paper base  
... that will not buckle or curl ... that adds to  
your convenience in reading, filing, mailing,  
or binding.

**EASTMAN KODAK COMPANY**  
Industrial Photographic Division  
Rochester 4, N. Y.

*"Kodak" is a trade-mark*

**See the difference yourself** ... the savings,  
the improved results that are yours when you  
start using Kodagraph Contact Paper in your  
present machine.

A new, illustrated  
booklet describes the  
advantages in detail.  
Write today for "The  
Big New Plus." It's  
free.



Eastman Kodak Company  
Industrial Photographic Division  
Rochester 4, N. Y.

Please send me a free copy of "The Big New Plus"—your booklet about  
Kodagraph Contact Paper and the other papers in this great new Kodak  
line. I have ☐ contact printer ☐ direct process ☐ blueprint equipment.

Name \_\_\_\_\_

(please print)

Department \_\_\_\_\_

Company \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

91

# Kodak



*Electrical repairs and additions are easily made in buildings that have Hauserman Movable Steel Walls. All wiring accommodations are built in.*

*Plumbing repairs are easily made when utility shafts are enclosed by Hauserman Movable Steel Walls.*



## UTILITY REPAIRS MADE EASY by Hauserman All-Steel Interiors

**U**TILITY REPAIRS AND ADDITIONS are everyday problems in your business . . . leaky pipes . . . clogged drains . . . heating and air conditioning repairs . . . new electrical outlets . . . new telephone installations. BUT, these repairs and additions can be made easier, at less cost and without probing, digging, pounding or mess when you have Hauserman *All-Steel Interiors*. Hauserman's unit type construction permits easy removal of individual rigid panels for access to utilities. And all units are just as quickly replaced when work is completed.

In addition, Hauserman *All-Steel Interiors* assure efficient utilization of all floor areas for the life of the building. Hauserman *Movable Steel Walls* are quickly and easily moved whenever new floor layouts will promote operational efficiencies . . . often in a matter of hours. Whenever Hauserman Walls are moved, all units are completely re-used.

There are many reasons why Hauserman *All-Steel Interiors* are used in the smaller as well as the larger buildings in America. Among these advantages are: Rich, Decorators' Colors and Authentic Wood Grain Finishes • Rigid Construction • Excellent Sound Control • Earlier Occupancy • Incombustible Materials • Rock-bottom Maintenance Costs • Ease of Servicing Utilities • Ease of Adding Wires and Outlets • Easy to Move.

Let us help you with your interior wall and ceiling problems.

### THE E. F. HAUSERMAN COMPANY

6724 GRANT AVENUE • CLEVELAND 5, OHIO

**Specialists in Service**—We assume undivided responsibility for complete interiors . . . shop drawings, building measurements and installation. We supply all products complete with hardware, wiring accommodations and all accessories. Our experienced erection crews are on call for alterations and additions. Our engineers are always at your service.

#### FREE CATALOG TO HELP YOU PLAN

You'll find interior walls and ceilings to meet your exact requirements in Hauserman Catalog 49. Write for it on your business letterhead today.



# HAUSERMAN

## ALL-STEEL INTERIORS

**MOVABLE PARTITIONS • WAINSCOT • ACOUSTICAL CEILINGS**

**"For every commercial, industrial and institutional need"**

# INTERNATIONAL OUTLOOK

BUSINESS WEEK

APRIL 9, 1949



Behind talk of devaluing the British pound is the fear of a slump in the U. S.

Lower U. S. prices are making it harder and harder for Britain to sell here.

And the British fear more and more that the U. S. will push exports to take up any domestic slack. If so, Britain will be in a bad competitive spot. While U. S. prices are going down, British prices are going up.

If the pound is devalued, of course, Britain's buying problem in hard currency areas—Belgium and Switzerland, as well as Canada and the U. S.—will be tougher. But this could be an argument to devalue sooner rather than later—while ECA dollars are still available to help out.

•  
The success of Britain's export drive in the U. S. and Canada this year will influence devaluation one way or another.

The British government now plans to help finance a large-scale advertising and marketing campaign here.

Through the government Export Credit Guarantee Fund, British exporters will be insured against loss from promotional expenses not covered by sales. And before the government are several private projects for the marketing of British branded goods through U. S. distributors.

In Canada, the British government will finance British technical missions to keep an eye open for large utility contracts (page 116).

•  
Czechoslovakia is offering to pay for nationalized U. S. investments—the U. S. will let the Czechs buy machinery and raw materials here.

The Czechs say they are anxious to settle up with U. S. owners. But they don't have the gold or dollars to do it.

What the Czechs want is a deal whereby they can hike their exports to the U. S. and use the proceeds to pay off the debt over a period of time. Of course, they say, they will first need permission to buy machinery and raw materials in the U. S. in order to create their dollar-earning exports.

Czech officials and the State Dept. are huddling over the matter now. The book value of the nationalized U. S. investments in Czechoslovakia is \$130-million. Washington doesn't think anything near this will be agreed on. But some sort of deal seems to be in the cards.

•  
U. S. curbs on exports to Iron Curtain countries now bind western Germany, too.

Occupation officials in Bizonia have stopped shipment of chemicals, electrical appliances, and machinery to Poland. The ban has upset a \$28-million Bizonia-Polish trade pact.

The Poles offered \$12-million worth of food and \$2-million in textiles and industrial goods for German manufactures. But Gen. Clay turned thumbs down. Trade agreements of the same type have been O. K. before.

And Britain has tightened its export restrictions to the Soviet bloc. New bans have just been put on several types of lathes, grinding and forging machines, industrial chemicals, nonferrous metals, some semifinished goods.

•  
Mexico will get U. S. funds to develop its oil industry. The only question seems to be how much.

The State Dept. thinks Mexico should get only a nominal amount—say



# INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK

APRIL 9, 1949

\$10-million. It would go for transportation and refinery building. Drilling and exploration, State feels, should be left strictly to private capital.

The House Interstate & Foreign Commerce Committee thinks Mexico ought to get a lot more. And the committee doesn't want the money to have any strings on its use.

The Mexican government is asking for \$100-million. It would like to borrow that sum from the Export-Import Bank.

Sen. Antonio Bermudez, head of Mexico's state oil corporation, Pemex, has put his government's plans up in Washington. Among other things, they call for a network of pipelines to get oil to farm and industrial centers. There would be a tie-in with U. S. pipelines, too.

Bermudez is willing to leave drilling and exploration to private capital. The agreement between Pemex and Mexican-American Independent Co. (backed by Edwin Pauley and nine independent U. S. oil operators) seems to take care of that angle.

The Pauley group has a 25-year contract with Pemex to drill in three areas at the base of the Yucatan peninsula. Actual drilling is limited to 12 years. But Mexican-American will get 15% of the profits from the sales over the 25-year stretch.

Recession in France is gathering speed.

Retail prices dropped another 4.1% in March. Wholesale prices slumped another 3.1%. The industrial price index was off 6%.

The break in farm prices (BW-Mar.19'49,p121), which started the recession, has spurred the French government to action. It has drafted a 50-billion franc (about \$125-million) farm export program for the coming year.

The target: wines, 18-billion francs; fruits and vegetables, 16-billion; dairy products, 7-billion; meat and fish, 4.5-billion.

This program may get off to a bad start. France is in the midst of one of the worst droughts in years. Reservoirs are drawn to 10% of capacity.

Britain may take over our oil markets in Argentina. It would mean the loss of a \$100-million business a year to U. S. companies.

The Argentines are plugging a meat-for-oil barter deal at the Anglo-Argentine talks now going on in Buenos Aires. They want the British to send them all the oil they need—about 5-million tons a year. Ordinarily they buy 75% from the U. S.

ECA might veto such a deal, though. Britain got \$6.5-million from ECA to buy oil in Latin America. So ECA wouldn't want to be in the position of financing British oil exports to Argentina.

Here's a little lesson in the economics of socialism.

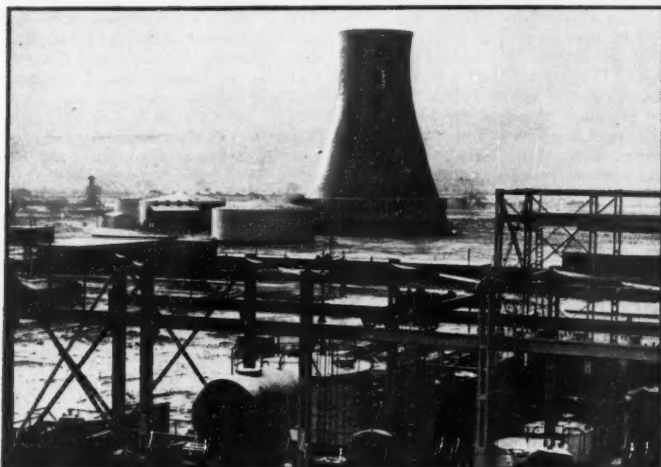
Net personal savings in Britain (including insurance premiums, etc.) fell £39-million in the last year.

Conclusion: Voluntary savings got squeezed under the weight of taxes.

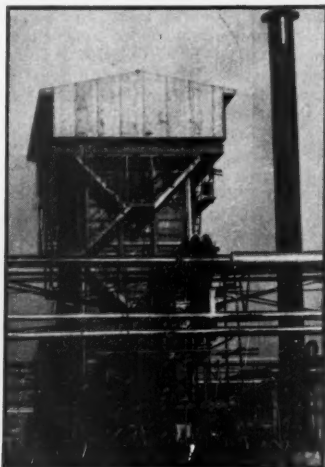
But the British government turns the whole proposition around. In effect, it is saying to the taxpayer: "Since your savings are going down, you must be blowing the money in—maybe foolishly. In that case, you can afford to pay more taxes."

At any rate, that's how the government is alibiing its new budget to the public. The budget will whack 40% out of national income for taxes.

# BUSINESS ABROAD



**NEW PLANTS:** Shell's petrochemical plant, one of four British projects, will go to work next summer. Nearby refinery will eventually supply petroleum gases



**NEW PROCESSES:** Catorole cracking makes possible close control of end products

## Britain Turns to Oil for Chemicals

Coal's drawbacks as a basic raw material spur four petrochemical projects. They may save a \$40-million import bill.

LONDON—Britain's chemical industry is in the throes of a revolution. Oil is replacing coal as its basic raw material.

One new company and three well-established giants already have projects under way to speed the revolution. Others seem ready to join in. All this is good news for the British government: Home production of organic intermediates for the chemical industry may save Britain \$40-million a year in imports.

• **Coal's Drawbacks**—Up to now, Britain's chemical industry has relied on coal-cracking and molasses-fermentation for most of its raw material. Both these processes have serious drawbacks. Coal tar—which when cracked produces such organic chemicals as benzene, toluene, naphthalene, etc.—is in very short supply. At the same time, demand is mounting steadily for those types of organic chemicals that can't be made cheaply from coal tar—ethylene, propylene, butylene. These have to be imported in forms like ethyl alcohol. Last year Britain's bill for imported ethyl alcohol alone was \$6-million.

• **Oil Is Solution**—Oil is the answer to both these problems. By cracking petroleum molecules, Britain's chemical producers can get all the organic intermediates they need. And the day isn't

far off when they can do the whole job at home; British refineries should be able to supply all the basic petroleum gases.

These gases are a scarce item now, so there will have to be crude oil imports to keep the initial petrochemical projects going. But Britain's oil industry is in the midst of a \$500-million expansion program. Oil men are out to boost refinery capacity from the 1.5-million tons a year they had in 1945 to 20-million tons in 1952. This program will mean plenty of raw material for the new petrochemical industries.

• **First and Smallest**—The first petrochemical project to get into production is also the smallest. Petrochemicals, Ltd., started its first cracking plant in February at Partington, near Manchester. At first, the company plans to process 50,000 lb. of crude oil a year.

Petrochemicals, Ltd., is tied in through a partial common management with Manchester Oil Refinery, Ltd. But the company stoutly proclaims its independence in all phases of operation. Not even raw materials are coming from the nearby Manchester concern. Crude oil for the company will be imported.

The Petrochemicals, Ltd., plant cost \$18-million. It was completely financed

by the government-sponsored Finance Corp. for Industry, which also put up the money for the huge Steel Co. of Wales (BW—Feb. 12 '49, p. 104) and other big expansion projects. Petrochemicals' plant operations will increase the value of imported raw materials \$12-million a year, leaving a profit of about \$4-million.

Petrochemicals thinks it has added a lot of new refinements to the science of cracking the petroleum molecule. Its method, known as the Catorole process, was invented before the war by Chaim Weizmann, now President of Israel. By blending types of petroleum and by varying operating conditions, the Catorole process makes it possible to regulate the proportions of liquid, solid, and gaseous end products.

• **Sales Wrinkle**—Petrochemicals has also added a new twist in the selling field. It encourages partnership arrangements with manufacturers who need chemical raw materials. The partnership results in a jointly owned plant where Petrochemicals' products get special processing to meet the needs of the partner. Two such companies have been formed already: one with Lewis Berger & Sons, Ltd., paintmaker; another with Lankro Chemicals, Ltd., chemical manufacturer.

• **Shell's Plant**—This next summer Britain's second petroleum-chemical project, Shell Petroleum Co.'s plant at Stanlow, Cheshire, will go into production. Initial output should run about 24,000

tons a year; main products will be acetone, methylethylketone, butyl alcohols, and others.

Shell's petrochemical plant will eventually get petroleum gases from Shell's new refinery, now under construction nearby (BW—Mar. 29 '47, p102). Until then the new plant will import gasoil (a type of kerosene) from Venezuela or the Middle East.

Shell has other petrochemical plans. It will boost output of detergents at an existing Stanlow plant from 25,000 tons to 70,000 tons a year. Production of insecticides and fungicides at the company's plant in Shellhaven, Essex, will be pushed up this year.

• **Imperial Is Third**—By the middle of 1950, Britain's third petrochemical project should be in production. This project, including a new cracking plant, is being built by Imperial Chemical Industries, Ltd., at Wilton, Yorkshire (BW—Jul. 3 '48, p79).

Petrochemicals make up about \$17-million of I.C.I.'s current \$68-million expansion program. The Wilton plant will turn out ethylene, propylene, butylene, and other various hydrocarbons for conversion into more complex products.

Much of this conversion will be done at I.C.I.'s giant Billingham works, which lie just across the River Tees from Wilton. The two plants are linked together by a 1,750-ft. tunnel under the river;

the tunnel houses 10 mi. of pipeline.

• **And the Fourth**—Britain's fourth petrochemical project is a joint venture by the Anglo-Iranian Oil Co., Ltd., and Distillers Co., Ltd. These two companies have each put up \$10-million to form British Petroleum Chemicals, Ltd. They have picked a plant site at Grangemouth on the Firth of Clyde in Scotland. Stone & Webster Engineering Corp., New York, will do the design work. But site clearing has just started; initial production is at least two years off. The companies haven't even set output targets yet.

The plant will go up beside a refinery of Scottish Oils, Ltd., a subsidiary of Anglo-Iranian. It will draw all its raw materials from the refinery, which will be expanded.

Distillers Co. already has two wholly owned subsidiaries in the chemical industry: British Industrial Solvents, and British Resin Products. These companies will draw on the new British Petroleum Chemicals plans for raw materials. But most of the output of the new plant will go to outside companies.

• **Possible Others**—Two other companies seem ready to dive into the petrochemical field: Anglo-American Oil Co., Ltd., which is just completing an \$80-million expansion of its refinery at Fawley, near Southampton; and British Celanese, Ltd.

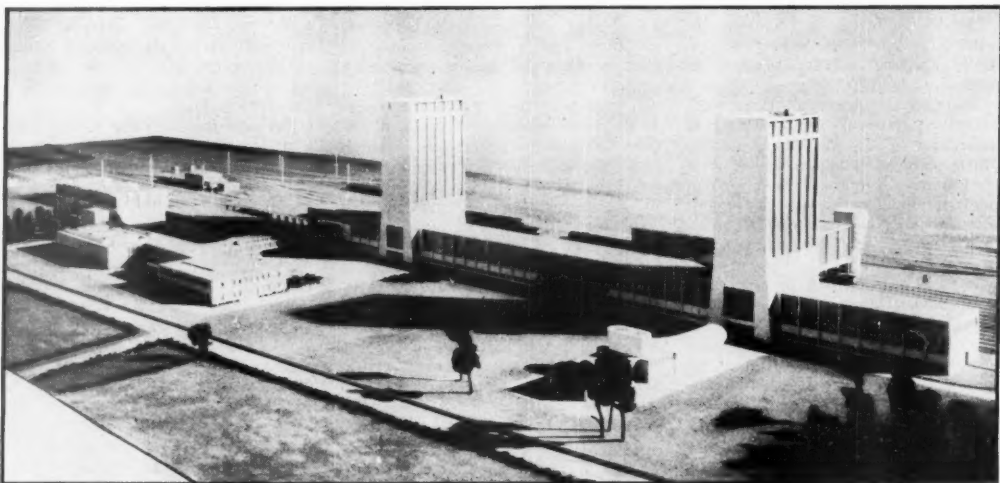
## BUSINESS ABROAD BRIEFS

RCA will prepare a project report on setting up a state-owned radio and radar-equipment plant in India. Britain's Marconi Wireless and France's Compagnie Generale de Telegraphie will also submit reports.

• **Australia** will manufacture more heat-control devices of American design. A new \$800,000 company—Wilcolator (Australia), Ltd.—has taken over another company that was under license from New Jersey's Wilcolator Co. The new company is expanding production of the U.S. company's line.

• **Uranium rush** in the colonies is being encouraged by the British Ministry of Supply. It will guarantee a fixed minimum price for uranium oxide for the next 10 years (\$2.75 a lb.). The ministry will provide capital for development, too.

• **West German Industry** will be on display at Rockefeller Center, N. Y., April 9 to 24. Sponsored by the allied military governments, the show will be organized under 25 industrial headings. Displays will cover machinery, metal products, jewelry, sport items, scientific instruments, electrical products, chemicals, textiles, and leather goods.



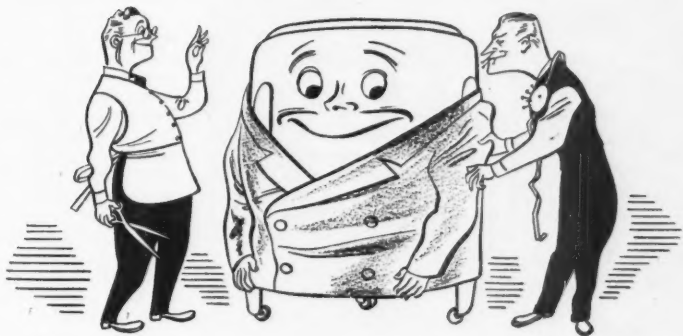
## British Coal Board Builds the Colliery of the Future

This architect's idea of what a colliery should look like is becoming a reality at Rothies, North of Edinburgh, Scotland. The British National Coal Board is building it as part of its all-out drive to show that nationalization has improved the miners' lot. The two tall structures are the hoisting-shaft

towers; between them is the coal-preparation plant. The washing and loading plant is at rear, right, the power house at rear, left. The low buildings in the left foreground house offices, mine canteen, and the pithead bath. The bath is a big item in the current improvement drive; the coal board

wants to install one at every mine. The first miners got baths at the mines in 1926; there are still some 326,000 workers who don't have them. The coal board figures at least 500 more baths are needed, and according to its estimates the cost for each colliery will be about \$500,000.

# Tailor a Coat For a Washer?



**YOU BET!** The finish on your washer is tailored to fit the needs of the appliance—tailored by the sort of service that Atlas gives its customers . . . tailored to fit the production line.

*Of course*, an Atlas DURANITE washer finish must be tough—able to take a beating from steaming water, soaps, acids, buttons and buckles. But more than this—the finish must be fitted to the washer manufacturer's production line. It must conform to his metal-cleaning procedure, and his methods of application, curing, and drying. It must give the proper "mileage" per gallon—and many more factors must be considered to assure the proper "fit."

This type of **SERVICE** is the common denominator of *all* Atlas products—explosives, emulsifiers, detergents, laundry covers, activated carbons. No Atlas product is complete without it, because all Atlas products are made to serve other industries—and until they perform that service, our job is incomplete.

Because **SERVICE** is the basic ingredient of every Atlas product, we are organized to render sales service in its most complete sense to each of the dozens of industries we serve. If yours is one of these, our extensive research and engineering sales service are at your call.

For finishes, address Atlas Powder Company at Stamford, Conn.; or North Chicago, Ill.



# ATLAS

**POWDER COMPANY**  
WILMINGTON 99, DELAWARE  
*Offices in Principal Cities*

Industrial Explosives • Industrial Finishes • Laundry Covers • Acids  
Activated Carbons • Hexahydric Alcohols • Surface Active Agents

**PUTS ME IN THE STEP OF WATCHMEN!**



**CHICAGO WATCHCLOCK System**

**ITS SMALL COST QUICKLY RETURNS TO YOU THRU REDUCED INSURANCE RATES!**

Soon the Chicago Watchclock System makes money for you by permanently lowering insurance premiums. And you immediately obtain greater property protection because the tamper-proof CHICAGO system watches your watchman.

Get details from

**CHICAGO WATCHCLOCK DIV.**  
GREAT LAKES INDUSTRIES, Inc.  
*The First—and Still the First*  
1524 S. Wabash Ave., CHICAGO 5  
Offices in Principal Cities

**IN USE ALL OVER THE WORLD**

## clues:

Turning the "Searchlight" on Opportunities

Published as space is available—approximately once a month. Rate—\$2.00 per line, minimum 3 lines—2 weeks for 50¢ number. Address copies to Business Week.

### industrial public relations

• **YOUNG PUBLIC** Relations Executive, now employed by one of nation's top consultants, seeks opportunity to specialize in industrial P.R. problems. Thoroughly experienced all phases of public relations. Box 8586.

### public relations executive

• **AVAILABLE—BROADCASTING** and Public Relations Executive desires connection with Public Relations Department of progressive firm, or with recognized agency. Twelve years experience, expert in modern field of Community Relations, accomplished public speaker and writer. Box 8585.

### manufacturers' representative

• **EXPERIENCED SALES** representation in south Texas for manufacturers of building specialties, roofing, metal or ceramic products. Contacts with architects and contractors. Commission basis. Box 8531.

### inventor

• **INVENTOR WILL** accept commission for the creation of new product, process, or solution to existing problem. Substantial engineering and practical background. Box 8418.



### FACTORY MANAGER—MSME.

Licensed Professional Engineer, also Cost Accountant would like new connection. 23 years extensive manufacturing experience including production supervision and planning, sales forecasts, budgets, and cost reduction through improved methods and product redesign. All replies will be treated as confidential.

Box 8384, Business Week  
320 West 42nd Street, New York 18, N. Y.

# Canada Makes Its Own

Shift from farm to industry takes on new spurt. For 1949, capital outlay is put at \$3.3-billion, with about \$500-million going into manufacture. Dominion seeks U. S. help in building up plant.

This article is the second in a series of three on Canada's long-view economic picture. The first one (BW—Apr. 27 '49, p105) sized up the general outlook. This one goes into manufacturing trends. The third one will show what recent developments in minerals will contribute to Canada's growth as an industrial power.

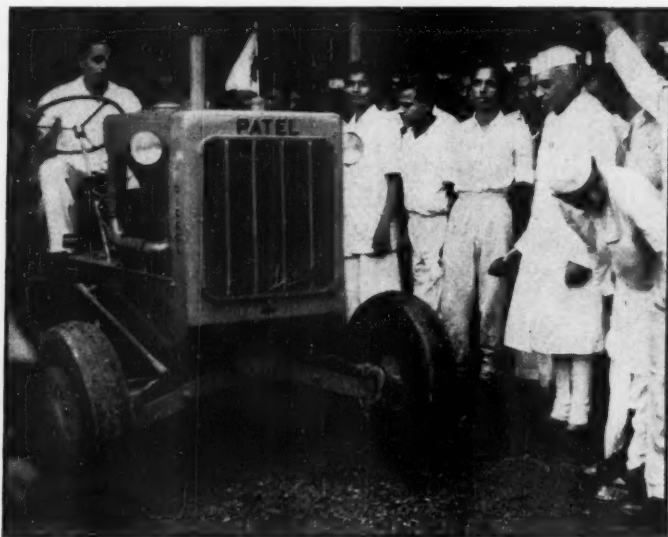
MONTREAL—"Made in Canada" is a slogan that rings sweetly in the ears of our neighbors to the north. And the manufacturers aren't just hearing bells in their heads. Refrigerators, washers, automobiles, vacuum cleaners, and toasters are coming off Canadian assembly lines.

• **Shift to Industry**—In the past 35 years, the pattern of Canada's economy has changed. In 1914, factories accounted for only 36% of net Canadian production; now they account for 65%. In volume and value crops soared, too; but relatively they dropped from 43% to

20% in the same years. Today Canada is a big industrial power in its own right.

With a new budget designed to free more venture capital (BW—Apr. 27 '49, p105), Canada is counting on an even greater upsurge in manufacturing volume. Extra money for shareholders means new inducement for expansion. Extra money in individual pockets means more cash to pay for more goods. That's why Canada's taxes will go down. • **U. S. Plays Part**—What did, and does, this have to do with the U. S. businessman? The answer is: Plenty. The U. S. businessman has accounted for a large part of Canada's manufacturing boom. For when he asked himself how he could best cut in on the Canadian and British Empire markets without bothering with tariffs, the answer was easy: Move over into Canada.

Branch plants around Montreal and throughout the provinces of Quebec and



## Christening India's First Tractor

India's Prime Minister Nehru (far right) has broken a "christening" coconut over the first tractor ever made in India. The 30-hp., diesel-powered model shown here is a prototype produced by Pashabai Patel & Co., Ltd., Bombay. Patel's target is to be in production by 1950.

Patel tractors will have imported engines—perhaps from the U. S. The company is

an offshoot of Allis-Chalmers Mfg. Co.'s Indian agency. Last year Allis-Chalmers supplied Patel with plow blades for the first heavy-duty plows produced in India.

Patel may not have the Indian tractor field to itself. Marshall Sons & Co., Ltd., Calcutta engineering firm, is thinking of setting up shop. The Orissa provincial government has the same thing in mind.



Ontario are running at full blast for U. S. firms. In 1948, Toronto's Financial Post recently noted, the book value of U. S. investments in Canadian branches is thought to be about \$2.7-million. That's just about double what it was in 1926. And with Finance Minister Abbott shooting for a long-range program of more home processing of Canadian raw materials, chances look good that U. S. capital will be welcome for years to come.

• **Utilities Spurt**—Meanwhile Canadian companies are doing a lot of pushing on their own. Utilities in particular are putting on a big spurt this year. They will spend a large part of the over-all \$3.3-billion capital outlay estimated for 1949.

The Canadian Pacific Ry. figures on spending \$75-million this year (and each of the next four years) on road and service improvement. And the telephone company also has made plans to make large expenditures to keep in step with industrial growth.

Canadian Pacific's program hinges on getting a freight-rate hike to bring its domestic tariffs in line with U. S. rates. The road plans to improve service with diesel-electric freight and switching locomotives, new coaches for home passengers, and a switch to diesel-electric for both passenger and freight trains between Wells River, Vt., and Montreal.

• **Construction**—Heavy investments will be made in building construction and in housing. Housing is tight almost every place where industry has expanded. More than \$700-million is expected to go into new homes this year.

You can see signs of office and plant construction in the bigger cities and industrial centers. In downtown Toronto, for instance, several office buildings are going up. Among them is a new home in the financial district for the Bank of Nova Scotia.

• **Manufacture**—Total investment (domestic and foreign) in manufacturing in Canada today is over \$6-billion. Canadian manufacturing consists mainly of the hundreds of small enterprises that dot the countryside. In Canada the big home-controlled operations besides the Canadian Pacific are C.P.'s subsidiary, Consolidated Mining & Smelting Co. of Canada; the Massey-Harris Co.; and the Steel Co. of Canada.

American direct investment accounts for slightly over 20% of the total capital in Canadian manufacturing plants. It is confined chiefly to big durable-goods plants that turn out automobiles, washing machines, electrical equipment, and to the oil-processing industry.

Canadian manufacturing plants figure they will spend a little less for expansion this year than in either 1947 or 1948. But they will still spend over half a billion dollars.

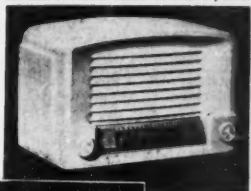
• **Chemicals**—Canadian Industries, Ltd., is a prime contributor to the Canadian

↑  
Mr. Boggs  
needs them

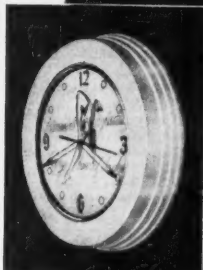
↓  
**BIG**



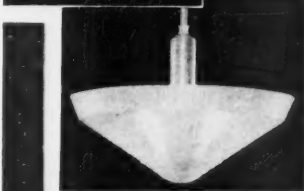
Large retail scale housings have been molded of Plaskon Urea for over 17 years.



A Millions of radio cabinets have been molded of Plaskon Urea during the past 15 years.



Large compound-curved moldings such as this clock housing are commonly produced with Plaskon Urea.



Large lighting reflectors have been molded of Plaskon Urea for over 16 years.

## PLASKON UREA MOLDING COMPOUND...

...in BIG plastic moldings for over 15 years

Over FIFTEEN YEARS of continuous use for big plastic housings and for BIG products involving large areas of strength are not unusual for Plaskon Urea. Housing for Toledo Retail Scale has been molded of Plaskon for over 17 years.

PLASKON UREA has strength... more than adequate strength for sturdy service in large moldings. Also the actual Plaskon Urea commercial moldings are for the fact. Not, too, the long list of records.

PLASKON UREA has beauty... rich, distinctive, colorful... for personality and sales-power.

PLASKON UREA doesn't attract dust... stays bright and gleaming... promotes sales. Urea is resistant to oils, greases, common solvents and weak acids. Has exceptional electrical insulating qualities.

COMPETENT SERVICE in selecting Plaskon Urea to your particular BIG molding needs will be given by experienced Plaskon field men and engineers. This service efficiency and economy is a definite Plaskon has the prestige, the products, and the proven performance in both.

### PLASKON DIVISION

HERBY - DREDA - 7075 BROAD CO.

2115 Broad Avenue, Toledo, Ohio

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

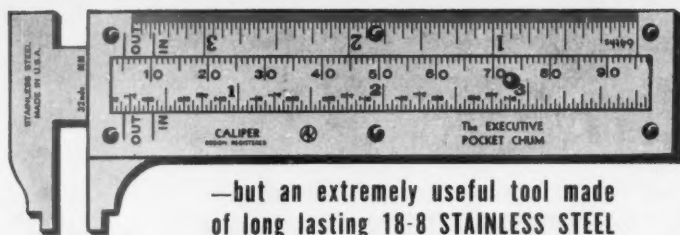
Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

Plaskon Urea is a registered trademark of the Plaskon Division of the General Electric Company.

# PLASKON

MOLDED COLOR

# It's NOT Just ANOTHER Caliper



—but an extremely useful tool made of long lasting 18-8 STAINLESS STEEL

This pocket Slide Caliper has many additional useful features not found in the traditional article. Easy reading etched on calibrations in both inches and metric system—a standard  $3\frac{1}{2}$  inch rule in 64ths inch—a table of Decimal Equivalents on the reverse side, where the advertisement of your firm may also be etched. A genuine leather case and mailing box for each. Priced under \$2.00 in moderate quantities. Quick delivery.

Customer Good Will is now becoming a very important business asset. Get it and retain it by the presentation of any of these useful, attractive articles from The EXECUTIVE Line.

BILL CLIPS • CALENDARS • LETTER OPENERS • CALIPERS • KNIVES • CRYSTAL GLASS MONOGRAMMED ASH TRAYS AND CIGARETTE BOXES • NOVEL PAPERWEIGHTS • TAPE MEASURES • RULERS • LIGHTERS, ETC.



These © Trademarks of  
**The EXECUTIVE Line**

are your assurance of quality and good taste in the selection of your advertising specialties.

If you cannot locate a reputable Advertising Specialty firm in your vicinity who handles the EXECUTIVE Line—write to

ALFRED ROBBINS ORGANIZATION, Inc. — 136 W. 54th St. — NEW YORK 19, N. Y.

## Read how SCIENCE is modernizing American Industry!

To Keep Pace with the Latest Advances of Science — read Science Illustrated!

No one group of men are quickening the pulse of industry more than the scientists. Think of the revolutionary changes they are bringing...with atomic power, jet propulsion, new mining and processing methods, new transportation, synthetics, etc. You can learn about the new developments of science—and what they mean to you—through the new monthly magazine, Science Illustrated.

Science Illustrated is so factual it brings you new ideas for your own industry...so broad in scope it keeps you up-to-date on fields outside your own...so skillfully written and richly illustrated it's entertaining as well.

### Covers Over 30 Fields Including:

Minerals	Photography
Architecture	Automobiles
Aviation	Railroads
Television	Electricity
Electronics	Petroleum
Optics	Machine Industry

Timely articles — over 30 a month  
Detailed photographs — over 140 a month  
Large-sized pages — over 100 a month

**Mail the Order Form Below —  
It Saves You \$4.00!**

Imagine! You can order 36 big issues of Science Illustrated (3 full years) for ONLY \$5! This special rate saves you \$4 over the one year price. We'll start your subscription with the big new issue now on the press—IF YOU MAIL YOUR ORDER WITHIN 10 DAYS.

### MAIL YOUR ORDER NOW

Science Illustrated  
330 West 42nd Street, N. Y. 18, N. Y.

YES! I accept your special offer. Start my subscription to Science Illustrated with the new issue now on press.

☐ I prefer 2 yrs. at \$4 (Saves me \$2 compared with the 1-yr. rate)  
☐ I prefer 3 yrs. at \$5 (Saves me \$4) ☐ I prefer 1 yr. at \$3  
☐ Bill me later ☐ Payment enclosed

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

ALSO ON SALE AT ALL NEWSSTANDS. ....25¢ BW 4-9-49

economy. This company, owned jointly by du Pont and Imperial Chemical Industries, Ltd., of England, will serve as an indirect dollar-earner with its new expansions.

One of company's new installations is a \$1.3-million sulphuric acid plant at Hamilton, Ont. The plant is designed to turn out 250 tons daily. Also at Hamilton, the company has built a new \$500,000 insecticide plant. And at Shawinigan Falls, Que., it will open a new \$600,000 cellulose-sponge plant next fall.

With these new plants, the company is now centralizing its export operations. It is expected to push its products for foreign—as well as domestic—sale.

● **Pulp and Paper**—Canada's large paper and pulp industry is also expanding—both via new plants and improvements in old ones. Newsprint, especially, has been on an expansion spree. Newsprint capacity for this year is 4.6-million tons, up 189,000 tons over 1948. Total capacity has risen 388,000 tons since the war's end.

R. M. Fowler, president of the Canadian Pulp & Paper Assn., thinks that postwar improvements in methods of production and operation in newsprint have added the equivalent of four new two-machine mills. This increase, he said, comes to nearly half the entire productive capacity of the U. S.

And until advertising linage drops, no one looks for a change in the trend.

At Long Lac, Ont., the Long Lac Pulp & Paper Co. (a subsidiary of Kimberly-Clark Co., Neenah, Wis.), has put in a new unit capable of producing 300 tons a day of sulphate pulp.

For all their growth, the paper and pulp industries are stressing forest conservation, for the vast expansion has started to eat into replantings. So there may be a letdown in lumbering as fewer trees fall, more new ones are planted.

Backstop to Canada's resources are those industries that convert its raw materials into useful merchandise. These include flour-mills, bakeries, canneries and other food processors, and tobacco plants.

● **Boost From Minerals**—In recent years the smelting of nonferrous metal has come along fast, thanks to the development of rich mineral resources. Canada ranks high among producers of nickel, zinc, lead, copper, and other metals. These in turn have prompted activity in aluminum reduction, manufacture of hardware, machinery, communications and scientific equipment.

Steel output has doubled since the start of the war. Plants in Ontario and Nova Scotia produce enough to supply almost two-thirds of Canada's needs. The newly found deposits of iron ore in Labrador eventually will help supply U. S. steel mills; but there presumably is enough ore in Canada to carry a

larger domestic steel industry if demand warrants it.

The mineral wealth uncovered in western Canada should boost chemicals. Large supplies of natural gas and petroleum have been found in Alberta and may extend into Saskatchewan. Salt deposits, coal, and cheap power also promise great industrial growth.

A case in point is the war-built synthetic-rubber plant at Sarnia, Ont., not far from the Imperial Oil Co.'s huge refinery. As refineries expand near the oil fields in the West, they will bring a crop of similar projects.

Canadian industrialists have reason to be cheerful. Plants are going up; more men and women are trekking into the factories, and Canadian goods—industrial and consumer—are rolling.

## ECA'S LEDGER

The House and Senate Appropriations Committees are sharpening their scissors for the ECA bill. They figure that commodity prices have dropped a lot since ECA estimated its second-year costs last fall. So they think they can shear \$100-million to \$200-million from the bill.

• **Foresight**—They probably won't be able to do it, though. Reason: ECA figured on lower prices when it added up its bill last fall. Perhaps over the whole range of products, prices have fallen a bit below ECA estimates. But this may be offset by additions ECA thinks it will have to make to the commodity program.

**Agricultural Commodities.** Taken as a whole, farm prices today are perhaps 3% to 5% below ECA estimates. Big reason is the drop in the price of fats and oils. This means the agricultural end of the program might be cut back as much as \$100-million.

But ECA now thinks that it will have to send more bread-grains to Europe than it had planned—perhaps enough more to offset the price decline. Reason: ECA overestimated Europe's 1948 harvest.

**Coal.** The price is down a bit more than ECA estimated—perhaps enough to cut \$5-million from the solid-fuels program.

**Nonferrous Metals.** Prices have dropped, but ECA wants to step up its buying. Supplies are easier now. When they were tight and prices high ECA kept its buying at a minimum.

Most other ECA requests will stick. Steel costs are higher now than a year ago, but cost to ECA may be less than earlier estimates if small producers lower quotations further to meet prices of major competitors.

## ADVERTISERS IN THIS ISSUE

Business Week—April 9, 1949

AIR REDUCTION SALES CO.	99	HOTELS STATLER CO., INC.	14
Agency—G. M. Bradford Co.		Agency—Young & Rubicam, Inc.	
AMERICAN CYANAMID CO.	78	INTERNATIONAL RESISTANCE CO., INC.	62
Agency—Hazard Advertising Co.		Agency—John Falckner Arnold & Co., Inc.	
AMERICAN HOIST & DERRICK CO.	75	JAMES HOTEL CO.	48
Agency—The Alfred C. Kelly Co.		Agency—George Kline & Assoc.	
AMERICAN LUMBER & TREATING CO.	193	KEYSTONE STEEL & WIRE CO.	32
Agency—Fuller & Smith & Ross Inc.		Agency—Maerz Adv. Agency, Inc.	
AMERICAN MUTUAL LIABILITY INS. CO.	3	KIMBERLY-CLARK CORP.	12
Agency—McCann-Erickson, Inc.		KROPP FORGE CO.	66
AMERICAN NAME PLATE & MFG. CO.	116	KOPPERS CO., INC.	63
Agency—Symonds, MacKenzie & Co.		Agency—Batten, Barton, Durstine & Osborn, Inc.	
AMERICAN RADIATOR & STANDARD SANITARY CORP.	8	KROPP FORGE CO.	66
Agency—Batten, Barton, Durstine & Osborn, Inc.		Agency—Advertising Producers-Asa'd, Inc.	
AMERICAN SURETY GROUP.	89	KWIK-MIX CO.	72
Agency—Albert Frank Gunther Law, Inc.		Agency—Andrews Agency, Inc.	
AMERICAN TELEPHONE & TELEGRAPH CO.	6	LURIA ENGINEERING CORP.	60-61
Agency—N. W. Ayer & Son, Inc.		Agency—Richard & Co., Inc.	
ANGIER CORP.	54	MAHNING, MAXWELL & MOORE, INC.	68
Agency—Cutler and Quinn Adv.		Agency—Briggs & Varley Inc.	
ARNO STEEL CORP.	2	MATHEWS CONVEYER CO.	94
Agency—N. W. Ayer & Son, Inc.		Agency—Meek and Thomas, Inc.	
ARMSTRONG CORK CO.	50	MCGRAW-HILL BOOK CO., INC.	91-100
Agency—Batten, Barton, Durstine & Osborn, Inc.		MICRO SWITCH DIV. OF FIRST IND'L CORP.	84
ATLAS POWDER CO.	115	Agency—Hamilton Adv. Agency, Inc.	
Agency—The Atkin-Kynett Co.		MOSINE PAPER MILLS CO.	36
BACOCK & WILCOX CO.	59	Agency—Klan Van Petersen-Dunlap Assoc.	
Agency—N. W. Ayer & Son, Inc.		NATIONAL BLANK BOOK CO.	88
BALTIMORE & OHIO RAILROAD	35	Agency—Sutherland-Abbott	
Agency—The Richard A. Foley Adv. Agency, Inc.		NEW DEPARTURE DIV. OF GENERAL MOTORS CORP.	49
BANK OF MONTREAL	93	Agency—J. M. Hickerson, Inc.	
Agency—Doremus & Co.		NORTHERN ENGINEERING WORKS	46
BARIUM STEEL CORP.	11	Agency—L. S. Marz	
Agency—Huffman & Co.		PACIFIC INTERMOUNTAIN EXPRESS	80
THE BILTMORE HOTEL	54	Agency—Hrisacher, Van Nordan & Staff	
Agency—Kelly, Nason, Inc.		PITTSBURGH ELECTRODRYER CORP.	95
BLAW-KNOX CO.	69	Agency—Fuller & Smith & Ross Inc.	
Agency—Al Paul Lefton Co., Inc.		PITTSBURGH STEEL CO.	88
CHARLES BRUNING CO., INC.	102	Agency—Bond & Starr, Inc.	
Agency—Homer Buckley & Assoc., Inc.		PLASKON DIVISION	
BUELL ENGR. CO., INC.	45	LIBBEY OWENS-FORD GLASS CO.	117
Agency—Hicks & Greist, Inc.		Agency—Meldrum & Fensmith, Inc.	
BUFFALO FORGE CO.	101	PORTLAND CEMENT ASSOC.	74
Agency—Motrin Hall Adv. Agency, Inc.		Agency—Boche, Williams & Cleary, Inc.	
BURROUGHS ADDING MACHINE CO., INC.	81	THE PROTECTOSEAL CO.	87
Agency—Campbell-Ewald Co.		Agency—Cummings, Brand & McPherson	
CARRIER CORP.	108	THE RAULAND-BORG CORP.	40
Agency—N. W. Ayer & Son, Inc.		Agency—George Brodsky, Adv.	
CENTRAL PAPER CO., INC.	48	RELIANCE ELECTRIC & ENGINEERING CO.	55
Agency—Crescent Adv. Service Inc.		Agency—Meldrum & Fensmith, Inc.	
CHICAGO WATCHCLOCK CORP.	116	REXINGTON RAND, INC.	7
Agency—Diane Wamannaker Assoc., Inc.		Agency—Leaford Adv. Agency, Inc.	
CHRYSLER CORP., DODGE DIV.	65	REZNOR MFG. CO.	8
Agency—Hess Roy, Inc.		Agency—Meek & Thomas, Inc.	
CLUES COMBUSTION ENGINEERING	116	RICKARD AND CO., INC.	76
SUPERHEATER, INC.	51	Agency—Richard and Co., Inc.	
Agency—G. M. Bradford Co.		ROBBINS & MYERS, INC.	105
THE COOPER-BESSEMER CORP.	29	Agency—Ryer & Bowman	
Agency—The Griswold-Eshleman Co.		ALFRED ROBBINS ORGANIZATION, INC.	118
CROSLLEY MOTORS, INC.	72	Agency—Kaplan & Bruck	
Agency—The Badger B. Jones Co.		ROCKWELL MFG. CO.	71
DISTILLATION PRODUCTS, INC.	57	Agency—The McCarty Co.	
Agency—The Griswold-Eshleman Co.		JOHN A. ROEBLING'S SONS CO.	73
DITTO, INC.	79	Agency—Healy & Oliver, Inc.	
Agency—W. W. Garrison & Co.		ROSS CARRIER CO.	28
DOW CHEMICAL CO.	3	Agency—Faxon Advertising	
Agency—MacManus, John & Adams, Inc.		ROYAL TYPEWRITER CO., INC.	92
C. A. DUNHAM CO.	42	Agency—Young & Rubicam, Inc.	
Agency—The Buchen Co.		RUST-OLEUM CORP.	34
E. I. du PONT de NEMOURS & CO., INC.	77	Agency—Evans Associates Co.	
Agency—Batten, Barton, Durstine & Osborn, Inc.		SHAKEPROOF, INC.	4th Cover
DUREZ PLASTICS & CHEMICALS INC.	56	Agency—Hebel & Waldie & Briggs, Inc.	
Agency—Constock, Duffes & Co.		SINODS SAW & STEEL CO.	36
EASTMAN KODAK CO.	109	Agency—Sutherland-Abbott	
Agency—J. Walter Thompson Co.		SINCLAIR OIL CORP.	27
THOMAS A. EDISON INC.	4	Agency—Doremus & Co., Inc.	
STORAGE BATTERY DIV.	4	A. D. SMITH CORP.	37
Agency—Lasky Company		Agency—Henri, Hurst & McDonald Inc.	
ELLIOTT ADDRESSING MACHINE CO.	106	M. SNOWER & CO.	106
Agency—Aley & Richards Co.		Agency—Ruthrauff & Ryan, Inc.	
THE FAIRFAX BEARING CO.	3rd Cover	SPERRY GYROSCOPE CO.	17
Agency—Horton-Notes Co.		Agency—Chas. Dallas Roach Co., Inc.	
FORD MOTOR CO.	43	STOLPER STEEL PRODUCTS CORP.	92
Agency—J. Walter Thompson Co.		Agency—Klan Van Petersen-Dunlap Assoc.	
GENERAL ELECTRIC CO., LAMP DEPT.	18	SUN OIL CO.	44
Agency—Batten, Barton, Durstine & Osborn, Inc.		Agency—Gray & Rogers	
AIR CONDITIONING DEPT.	64	SUNROC REFRIGERATION CO.	32
Agency—Knox & Eckhardt Inc.		Agency—Gray & Rogers	
GENERAL ELECTRIC CO., APPARATUS	31	TAFT-PEIRCE MFG. CO.	85
Agency—G. M. Bradford Co.		Agency—Sutherland-Abbott	
GENERAL INDUSTRIES CO.	98	TOLEDO SCALE CO.	104
Agency—Meldrum & Fensmith, Inc.		Agency—Beeson-Faller-Heiberg, Inc.	
GEN'L MOTORS CORP., FRIGIDAIRE DIV.	62	UNION BAG & PAPER CORP.	33
Agency—Foote, Cone & Belding		Agency—Roy S. Durstine, Inc.	
T. B. F. GOODRICH CO.	1	U. S. STEEL CORP.	
Agency—The Griswold-Eshleman Co.		CARNegie ILL. DIV.	47
GRINNELL CO., INC.	38	Agency—Batten, Barton, Durstine & Osborn, Inc.	
Agency—Horton-Notes Co.		U. S. STEEL CORP.	
GUARANTY TRUST CO. OF N. Y.	41	CYCLONE FENCE DIV.	98
Agency—Albert Frank Gunther Law, Inc.		Agency—Batten, Barton, Durstine & Osborn, Inc.	
E. F. HAUSERMAN CO.	110	U. S. TESTING CO.	90
Agency—Meldrum & Fensmith, Inc.		Agency—Robert B. Grady Co.	
HILTON HOTELS CORP.	83	WARNER & SWASEY CO.	2nd Cover
Agency—Newhall & Co.		Agency—The Griswold-Eshleman Co.	
THE HINDE & DAUCH PAPER CO.	70	THE WAYNE PUMP CO.	107
Agency—Howard Swink Adv. Agency		Agency—Bonhob Adv. Agency	
A. J. HORN CO., INC.	53	WESTERN UNION TELEGRAPH CO.	67
Agency—J. D. Tarcher & Co., Inc.		Agency—J. Walter Thompson Co.	

## Paying for Bonuses

Advocates of government economy were able to breathe a sigh of relief recently when the House shelved Rep. Rankin's veterans-pension bill. The measure, which its own sponsor estimated would cost \$109-billion, was sent back to committee—by a one-vote margin. It certainly was a close call.

The Rankin bill was the first veterans-pension legislation to come before Congress in 28 years. It aimed to provide \$90 a month pensions for all veterans of World Wars I and II when they reach 65. Any veteran with 90 days or more service would be eligible, regardless of his need. This payment would be on top of a social-security old-age pension, or a retirement pension to a government employee. Altogether, about 18-million veterans would be entitled to receive pensions in their later life.

Chairman Rankin of the House Veterans Committee said afterwards the bill was dead as far as the 81st Congress is concerned. But that statement does not tell the whole story, for there are other pension bills which may be brought up any time—including a new one of Rankin's, providing slightly smaller pensions. And there is an even likelier chance that a bill to pay a bonus will come along first.

Bills to grant bonuses to World War II veterans were offered in each session of Congress after war was declared. But organized pressure did not become evident until this year. The movement had been delayed, partly because of the generous provisions of the G.I. Bill of Rights and partly because of the full employment and high wages of the postwar period.

Even now, the pressure for a federal bonus is not so strong as it probably will be later. This is true because the real pressure is being applied now to state bonuses. Bonus proposals were adopted in six states last November by popular referendum. Ten states had previously voted bonuses to their World War II veterans.

This year many other state legislatures are being pressed to vote bonuses. One stimulus has been the good credit of states in recent years. Another has been the large number of veterans—more than three times as many as after World War I, and all of voting age.

State legislators, of course, find it just as difficult to vote against a bill demanded by veterans as do congressmen in Washington. However, in some states they have learned this interesting fact: If the proposed bonus is to be financed by special taxes, the bonus loses some of its attractiveness.

The legislators themselves hate to vote for new taxes of any kind. So they think a lot longer and harder before they vote a big expenditure.

The legislators also discover that they get a great deal more moral support from their constituents. If the bonus

measure has no tax strings tied to it, the citizens make practically no protest. An addition to the bonded debt—with no provision made to pay off the bonds—seems painless. But if a special tax is involved, a lot of public opposition arises.

The opposition even comes from those who would like to do something for the veterans. That group also includes some veterans, who see that they themselves will have to pay a large part of the cost of bonus payments to them.

In New York, for example, the veterans' bonus is being financed by (1) higher taxes on cigarettes, and (2) an extra levy on personal incomes. It has been estimated that the higher cigarette tax alone is costing each cigarette-smoking veteran in New York an extra \$5 a year. And some veterans have found out that, as individuals earning above-average incomes, they will pay more in extra personal income taxes than they received as a bonus.

All voters become more conscious of government expense when they realize the cost in the form of taxes. That is a good reason why the enormous cost of veterans' pensions or bonuses should be linked to taxes that will liquidate the expense. The knowledge that taxes will have to be imposed should be sufficient to deter congressmen from going berserk in voting more veteran payments.

## Economics Primer

Economics is generally considered a dull subject for the average person. Making an explanation of economics interesting and entertaining is therefore a real chore.

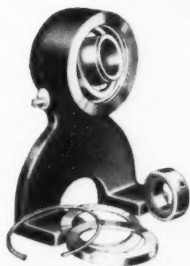
Banker H. Christian Sonne recently undertook the task. He attempted to explain our economic system to a group of high school students in a 50-minute talk. Evidently his effort was successful. His remarks attracted much interest from educators, parents, students, and businessmen. Sonne was encouraged to adapt and expand his talk into book form.

The result is "Enterprise Island," an easy-to-read book of only 128 pages. The island Sonne describes is an imaginary, primitive one. There he traces in story form the origin and growth of an economic system that closely parallels our own. He uses practical illustrations and simple language to tell how the Enterprise people faced and solved the problem of achieving a balanced economy and prosperity. Such abstract terms as barter, money, exchange, interest, credit loans, mass production, inflation, panic, and patents are made real.

As the book ends, the reader is brought right up to the problems America faces today.

Businessmen who read the book are almost certain to enjoy it. But the book's value will be lost if it is read only by those whose everyday life is business. The reader list should be filled by those who have not been able to understand how and why business functions as it does.

# FRICTION'S *out of fashion*



Your next year's suit, coat, shirts, ties, underwear . . . high styles for your wife . . . school clothes, "linens", draperies . . . streaming from miles of spinning frames, giant looms and finishing machines. Yours at your price . . . because the textile industry no longer has to reckon with the high cost of downtime, the failures of old-fashioned friction bearings. Because textile machinery makers took the problem where friction problems are welcomed . . . to Fafnir . . . and got an answer engineered to the problem. It's happened in most every industry because Fafnir's experience is not limited to one or two industries but is industry-wide. The Fafnir Bearing Company, New Britain, Conn.

## **FAFNIR**

**BALL BEARINGS**



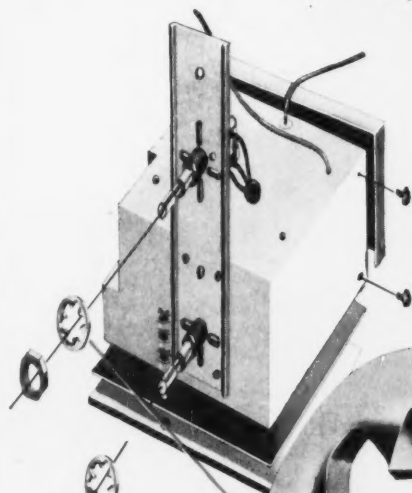
Fafnir Ball Bearing Cylinder Arbor Unit, a typical Fafnir-designed textile unit . . . which ended a plain bearing problem that used to shorten the life of spinning and twister frames.

**MOST COMPLETE LINE IN AMERICA**



# a new approach to assembly savings

FASTENING ANALYSIS BY SHAKEPROOF



SWITCH ASSEMBLY



In building radios, as in the manufacture of any other mass-assembled product, fastening ingenuity delivers immediate dollar savings. A part eliminated ... an operation saved ... a tighter installation ... an easier application ... a faster method—these are the typical opportunities that Shakeproof engineers search for as they "Fastening Analyze" a product. And, because they have the experience and the special training required plus the support of a complete fastening development laboratory they are able to show important cost reductions for practically every manufacturer who uses this service. Get all the details about "Fastening Analysis" by Shakeproof—ask for complete information, today!

*\*The famous Shakeproof "Triple-Action" Lock Washer...one of many ingenious fastening devices developed by Shakeproof engineers.*



**SHAKEPROOF Inc.**  
"Fastening Headquarters"

DIVISION OF ILLINOIS TOOL WORKS  
2501 North Keeler Avenue, Chicago 39, Illinois  
In Canada: Canada Illinois Tools, Ltd., Toronto, Ontario